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Number 1



COOPER ORNITHOLOGICAL CLUB

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# THE CONDOR A MAGAZINE OF WESTERN ORNITHOLOGY.



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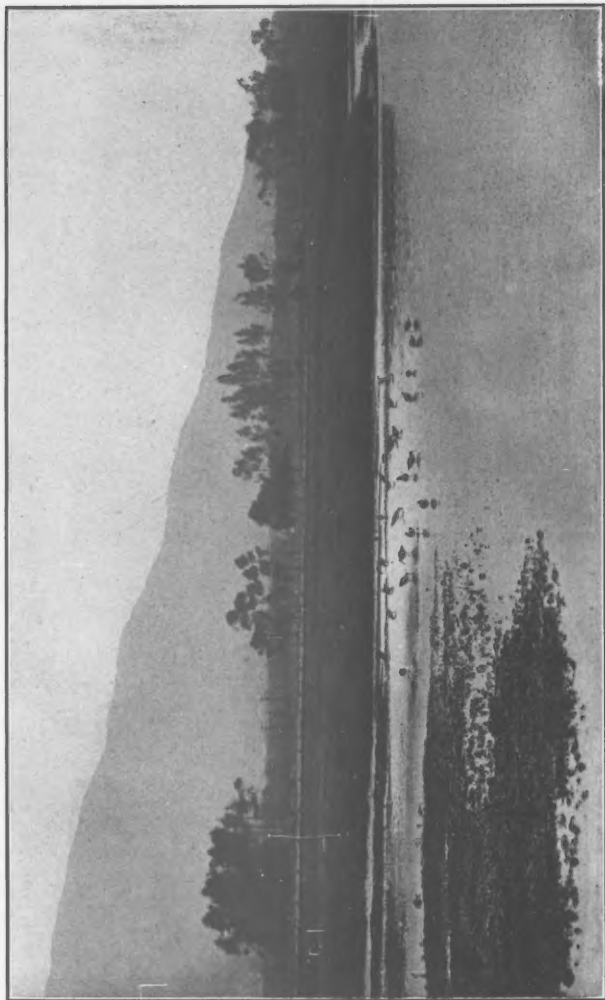


Fig. 1. LONG-BILLED DOWITCHERS FEEDING  
PHOTOGRAPHED BY W. LEON DAWSON NEAR SANTA BARBARA



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# THE CONDOR A MAGAZINE OF WESTERN ORNITHOLOGY.



Volume XIV

January-February, 1912

Number 1

## THE SHORE BIRDS OF SANTA BARBARA

By J. HOOPER BOWLES and ALFRED B. HOWELL

WITH THREE PHOTOS BY J. H. BOWLES

SANTA BARBARA, although apparently presenting conditions no more favorable for a heavy migration of shore birds than most other parts of the southern California coast, seems to be a preferred stopping place for the members of this order.

Mr. Bowles has made numerous observations among the *Limicolae* of this region since November, 1909, and work was carried on by both authors with the waders exclusively from August 8 until September 18 of the present year. No observations are recorded after December 1, 1911.

Field work was done at a shallow brackish slough near the beach at Goleta, a point ten miles west of Santa Barbara, at a large, but very shallow fresh-water marsh within the city limits, herein designated as "the flats", and at an extensive tide marsh with miles of tide creeks near Carpinteria, some eight miles east of town. The intermediate beaches were thoroughly explored. There were no rocky stretches along the shore, but occasionally outcropping boulders, or reefs, that were for the most part covered with tar. This substance floats up from a few miles down the coast and is a source of annoyance to all the water birds, all too frequently adhering to their feathers and causing a lingering death.

It is an interesting and probably a well-known fact that the birds of this group are much more suspicious of danger threatening from above than of anything approaching on their own level. The Black-bellied Plover, for example, will take instant flight if there is the slightest movement of the tall grass or bushes at the top of a cliff overlooking their feeding grounds. It may also be of value to state that they pay far less attention to a movement in the water than to one on shore, as we found it an easy matter to approach within a short distance of the most wary by wading towards them in the tide creeks, submerged to our shoulders.

Mr. Bowles has made a careful examination of the contents of the stomachs of all specimens taken, and the number of injurious insects, beetles in particular, destroyed by this order of birds is surprising. Beetles, squash-bugs, etc., were

found in the following species: Red Phalarope, Northern Phalarope, Wilson Phalarope, Pectoral Sandpiper, Baird Sandpiper, Red-backed Sandpiper, Western Sandpiper, Killdeer, Semipalmated Plover and Snowy Plover; the plovers in particular had eaten very little else. Hence it may be seen how exceedingly beneficial these birds are from an economic standpoint, making it of doubtful wisdom to include them among the gamebirds.

Under each heading is given the earliest and latest dates, in both spring and fall, at which the species was observed.

We wish especially to acknowledge our indebtedness to Mr. Bradford Torrey, of Santa Barbara, for numerous important dates which are noted in our list. The illustration kindly donated by Mr. W. Leon Dawson is only one of many that he took in preparation for his coming work on "The Birds of California".

**Phalaropus fulicarius.** Red Phalarope. Irregular spring and fall migrant; rare, except during late fall of 1911. Spring: May 25, 1911 (Torrey) to May 31, 1911 (Torrey). Fall: September 26, 1910, to November 30, 1911.

Of the three phalaropes the present species is by far the most interesting; indeed its habits are more varied than those of any other shore bird. The fall of 1911 was a most unusual one for many of the *Limicolae*, including Red Phalaropes. Mr. Torrey recorded their arrival on October 29, and they gradually became more numerous until November 8 when the heaviest flight occurred. The day was overcast, with a strong southwesterly wind, and Mr. Bowles visited both Carpenteria and Santa Barbara flats. Phalaropes were everywhere, in the ocean kelp half a mile from shore, on the beach, and swimming about on the inside esteros, six or eight hundred being a very conservative estimate of their numbers. The flight was evidently a very large one, extending over a considerable stretch of coast, as a few days later they were found to be equally abundant at Goleta. This flight must have originated at a great distance, as all birds examined upon their arrival, were in a most pitiable state of emaciation, with the merest scrap of flesh on the breast. Many were so exhausted that they lay on the beach with only the smallest attempt to get out of the way, while several were picked up dead that showed no signs of injury. A careful examination of the intestines showed no evidence of tapeworm or disease of any kind.

Their feeding habits were varied and most interesting. They could be found on the wet mud flats with the Pipits and Least Sandpipers, on the ocean beach with the Sanderlings, or swimming and "whirling" on the esteros in true phalarope style. In obtaining their food in deeper water they frequently thrust their heads well beneath the surface, occasionally tilting their tails skyward and dabbling like so many little ducks. Neither of the other phalaropes were seen to much more than dip the tip of the beak below the surface. Their diet may truly be called animal, mineral and vegetable, for in their stomachs was found an abundance of beetles, bugs, flies, mud larvae, tiny snails, seeds, and small particles of sand. Considering that they are rather maritime, they show a great adaptability when ashore.

**Lobipes lobatus.** Northern Phalarope. Not common in the spring migration, but swarming in the fall. Rare in the tide marshes. Spring: May 8, 1911 (Torrey) to June 16, 1911. Fall: August 4, 1911 (Torrey) to November 16, 1911.

Soon after their arrival in numbers, which occurred late in August this year, they began the practice of "whirling" to obtain food. As would seem obvious, it was done only in shallow water in order that the miniature whirlpools thus created would disturb the food at the bottom and draw it to the surface. However, for this practice to be a success certain conditions must be propitious; for example, on

cloudy days little or no "whirling" was observed. These tiny whirling dervishes spin around so fast and so continuously that when a good sized flock is in full action, it makes one fairly dizzy to watch them. In the latter part of September fully a thousand of these dainty mites were congregated on the flats, and scores of them would weave busily back and forth among the clumps of water growth, where with a little patience, one could approach within a few feet of them. One individual was seen to indulge in quite a little play by himself, bucking up and down in the water, submerging his head, rolling upon his side, and tearing madly around in a truly ludicrous way.

***Steganopus tricolor*.** Wilson Phalarope. Rather rare but regular spring and fall migrant. Seen only in fresh water. Spring: May 20, 1911. Fall: July 22 to September 8, 1910. This phalarope seems much less inclined towards swimming than either of the other two. Indeed, with few exceptions, all seen were walking

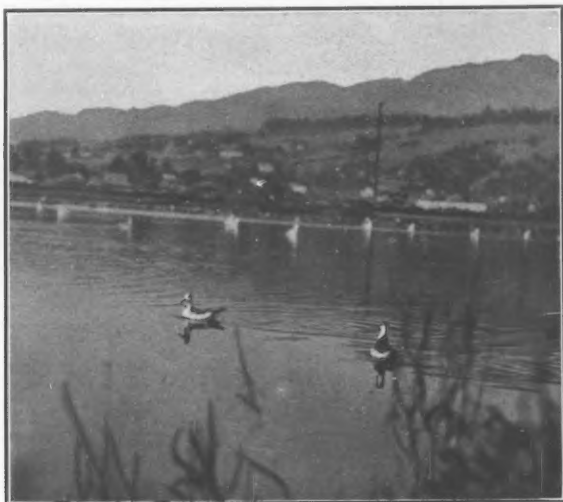


Fig. 2. RED PHALAROPES "WHIRLING"

about on the mud or in the shallow water. Their long yellow legs, together with the fact that they kept mostly by themselves, cause the fall birds to be easily mistaken for Western Solitary Sandpipers.

***Recurvirostra americana*.** Avocet. Regular, but not common spring and fall migrant. Spring: one bird on March 18, 1911. Two others on May 20, 1911. The March bird was in winter plumage, and remained in the same locality for nearly two weeks. The last seen were in full summer dress. Fall: one seen September 20, 1911 (Torrey). Two seen October 12, and one November 1, 1911.

***Himantopus mexicanus*.** Black-necked Stilt. Regular, but never a common, spring migrant. Never noted in fall. Spring: April 14 to May 4, 1911.

***Gallinago delicata*.** Wilson Snipe. Regular but not common in fall, winter and spring. Spring: latest, April 27, 1911. Fall: earliest, October 27, 1911. There seems to be no good reason why these birds should not be abundant here, but such never appears to be the case.

**Macrorhamphus griseus scolopaceus.** Long-billed Dowitcher. Abundant spring and fall migrant. Spring: March 10 to May 2, 1910. Fall: July 18, 1910, to November 1, 1911. A specimen taken by Mr. W. Leon Dawson on August 11, 1911, was the only one seen by us this fall that was still in nuptial plumage. Nearly every day flocks of from three to forty-one individuals were present. They showed the greatest preference for the tide marsh, while none at all were seen on the ocean beaches. This was one of the tamest species noted, being almost, if not quite, as confiding as the Least and Western Sandpipers.

**Tringa canutus.** Knot. Seen only during the fall of 1911. The first seen were two males that were collected by Mr. Bowles on the ocean beach August 21. Two more were seen on the 29th; one of them collected still had considerable reddish on the breast. One bird was seen on the 30th, another September 5, and still another on the 7th, which last stayed in the same locality for at least three days. There is no spring record for this species in southern California, and we have been unable to find any for the state.

**Pisobia maculata.** Pectoral Sandpiper. Rare, but evidently a regular spring and fall migrant. Mr. Bowles saw one April 14, and another September 8, 1910, the latter being collected on the following day. This bird was, on both occasions, feeding on the ocean beach with some Killdeer, a most unusual situation for this lover of the grassy marshes. On September 20, 1909, Mr. Torrey saw three together, his latest date being September 23, 1909 (CONDOR XII, 1910, p. 45).



Fig. 3. RED PHALAROPE WADING

At least two individuals were seen in 1911, one August 18 on the beach, the other August 20 at Goleta. What we believe to have been the same bird as the last mentioned stayed at least until September 20.

**Pisobia bairdi.** Baird Sandpiper. Regular fall migrant; sometimes common. Not recorded in the spring. Fall: August 10, 1910, to September 7, 1911. Mr. Howell collected our first specimen of this species on August 11, 1911, feeding with a flock of Least Sandpipers.

During 1910 Mr. Bowles saw only seven, but this year they were common on the flats and at Goleta, though none were seen on the tide marsh. They fed with the smaller sandpipers at times, though perhaps more often off by themselves, while once at our arrival three of them left the slough with a party of Killdeer to feed on the higher beach. Three or four could be found at any time between August 11 and September 4, while at least twelve, of which nine were in one flock, were on the flats September 2. As with the Knot, there seems to be no state record of this bird occurring in the spring. There seems to have been very little systematic collecting of shore birds done in the spring on this coast, but there remains a strong possibility of these two species having a different spring route to the north than by way of the California coast.



*Pisobia minutilla*. Least Sandpiper. Abundant from late July until late March, though much less numerous in winter. July 18 to April 1, 1910. It seems strange that this, the smallest of the order, should be one of the few that remain to winter with us. One frequently finds single birds, or two or three together, pattering around the wet kelp on the ocean beach, often waiting to examine an intruder from under the very feet of the latter before taking wing.

*Pelidna alpina sakhalina*. Red-backed Sandpiper. Occurs in both spring and fall, but is never very common. Spring: March 10, 1910, to April 20, 1911. Fall, September 9 to November 23, 1911. A female was taken September 9, 1910, in almost full nuptial dress, after which none were noted until the 18th, when one was seen in winter plumage. It is hard to understand why these birds do not winter with us here, since Mr. Bowles found it nothing unusual to see them in winter in the vicinity of Tacoma, Washington.

*Ereunetes mauri*. Western Sandpiper. Very abundant spring and fall migrant. Spring: February 28, 1910, to May 16, 1911. Fall: July 11, 1910, to December 5, 1909. Sometimes these little gleaners fairly swarm in their favorite haunts, and it is a beautiful sight, when some Marsh Hawk in search of mice flaps over them, to see the whole flock rise as one bird and go through precise evolutions of wheeling and fleeing up the shore, all the time twittering blithely.

*Calidris leucophaea*. Sanderling. Abundant winter resident of Santa Barbara, but for some reason not common at Carpinteria or Goleta. Earliest arrival July 29, 1910; last seen May 26, 1911, when most were in nuptial dress. One collected August 25, 1911, was still in breeding plumage. In spite of their numbers it is only by the rarest chance that we see any of these little fellows on the mud flats, for all of their time is spent on the ocean beaches. Frequently they may be found sunning themselves on the warm, dry sand, with a large company of Snowy Plovers, but their most characteristic occupation is chasing the retreating waves oceanward after stranded sandfleas, and in their turn being chased back up the beach by the incoming breakers.

*Limosa fedoa*. Marbled Godwit. Common fall migrant, but rather rare in spring and summer. Fall: August 20 to November 1, 1911. Although local residents have reported them occasionally in spring and summer, we have not seen them at those seasons excepting a single bird June 15, 1911. This one was exceedingly tame and, although well able to fly, remained on the beach for several days in company with the gulls.

*Totanus melanoleucus*. Greater Yellow-legs. Regular, but not common, spring and fall migrant. Rare in winter. Spring: March 20, 1911, to May 16, 1910. Fall: July 18, 1910, to January 2, 1911. A female shot August 29 was the only one noted by us this fall until October 14. Contrary to custom she was in an untalkative frame of mind.

*Helodromas solitarius cinnamomeus*. Western Solitary Sandpiper. Rare spring migrant, and usually not at all common in fall. Spring: one seen April 30, 1910. Fall: July 22, 1910, to September 7, 1911. The Solitary Sandpiper, more than any other shore bird, is inclined to restrict itself to the grassy mud flats and wet meadows, in fact we have never seen it on the ocean beach or open flats. This species, and the Spotted Sandpiper also, will sometimes dive and swim under water when wounded, using the wings as propellers in the same manner as do the ducks.

*Catoptrophorus semipalmatus inornatus*. Western Willet. Rare in spring migration, but very common in the fall; casual in summer, one seen by Mr. Torrey on June 24, 1910. Spring: April 16, 1910. Fall: July 25, 1911 (Torrey) to Novem-

ber 1, 1911. As a rule these birds were less wary than any of the other large waders, often showing a considerable degree of curiosity.

**Heteractitis incanus.** Wandering Tattler. Rare fall migrant. Seen September 5 and 15, 1911, and a male collected September 14, 1910. These birds were all very wild. Their rarity here is doubtless due to the absence of suitable feeding grounds.

**Actitis macularius.** Spotted Sandpiper. Very rare in spring, and never really common in fall. Fall: July 18 to September 17, 1910. On the latter date twelve birds were seen. About equally distributed on the mud flats and the more rocky portions of the ocean beach.

**Numenius americanus.** Long-billed Curlew. Regular spring and fall migrant, but never common. Spring: May 2, 1911. Fall: August 25, 1911, to October 15, 1910. The August bird remained in the same locality for several weeks, no others being seen there. He seemed to greatly prefer the company of the Western Willets to that of the very numerous Hudsonian Curlews, but was most often found feeding alone in the marsh. He was much more wary than either of the above

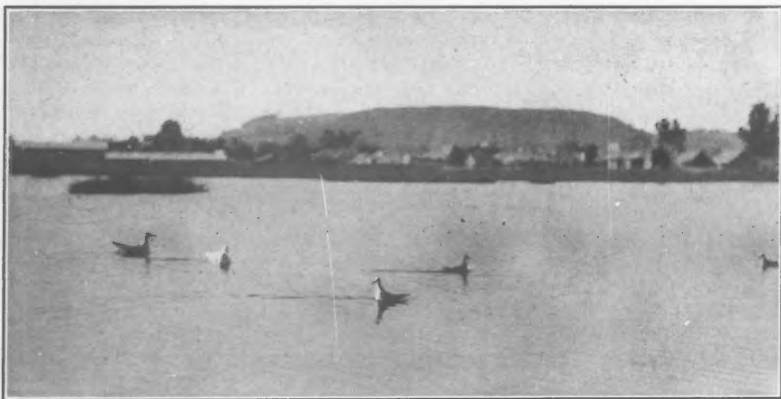


Fig. 4. NORTHERN PHALAROPES NEAR SANTA BARBARA

named species. As an illustration of how much the migration of this species is prolonged, it may be of interest to state that in central Washington Mr. Bowles found young out of the nest by the 12th of May.

**Numenius hudsonicus.** Hudsonian Curlew. Very abundant spring and fall migrant. Spring: March 2, 1910, to June 2, 1911. Fall: August 2, 1911, to October 15, 1910. These birds undoubtedly occur here in fall earlier and later than the above dates, but lack of time has prevented any personal records. In fact, large flocks were said to be present some two weeks before our August date. Upon their arrival from the north they were very wary, but gradually became less so, as was the case with several other species.

**Squatarola squatarola.** Black-bellied Plover. Regular migrant in spring and fall, but irregular as to numbers. A few probably winter. Spring: May 2, 1911. Fall: August 29 to November 25, 1911. This species was very common along a certain stretch of beach this fall, and on September 5 a flock of well over a hundred



individuals was seen, which would allow no closer an approach than two hundred yards, even by the most careful stalking. This flock remained a couple of weeks, dwindling slightly in numbers and becoming very much tamer. A male taken September 16 was still in almost complete nuptial plumage. By the first of October they had become so tame that one could readily walk on the open beach to within thirty yards of them.

**Oxyechus vociferus.** Killdeer. An abundant, noisy, and suspicious resident, serving as an alarm for all the feathered folk within hearing. A flock of these birds spent the nights on the lawn in front of the Potter Hotel during the first part of September, and always maintained an intermittent outcry until past midnight. There are occasionally heavy migrations, one of which occurred on October 10, 1911, when Mr. Bowles counted sixty-seven in a small pool on the mud flat, with many others in the vicinity.

**Ægialitis semipalmata.** Semipalmated Plover. Regular and fairly common spring and fall migrant. Spring: April 18 to May 16, 1910. Fall: July 12, 1910, to November 1, 1911. These immaculate little gentlemen were usually to be found in pairs and quartets in the vicinity of the sandpipers, but were considerably less inclined towards human company.

**Ægialitis nivosa.** Snowy Plover. Common resident, but much more abundant in winter than in summer. Appears in large numbers about the middle of December, at which times flocks of fifty or more individuals may be seen. The nesting season is a long one, as heavily incubated eggs were found from April 18 to July 28. They colonize to a very considerable extent, sometimes as many as six or eight pairs nesting within a small area of sandy beach. In the number of sets laid during the season it is probable that these birds are largely governed by the number destroyed. Owing to the small tidal waves that frequently sweep across the beaches, as well as sand drifted by the wind and eggs destroyed by animals, it seems a wonder that the poor creatures are able to bring up any families at all.

**Aphriza virgata.** Surf-bird. Mr. Howell took one male and one female on September 16, 1911, and Mr. W. Leon Dawson secured another. These were part of a flock of five that was feeding with two marbled Godwits. The remaining birds were remarkably tame and unsuspicious, allowing a close approach. At a distance we mistook them for Black Turnstones, being unable to see their breasts clearly because of the glare of the sun and sand. They seemed too large, however, and for the same reason, as well as because they were too stocky, they did not resemble Knots. This comparison of size is really the only way they can be identified at a distance, except when on the wing.

**Arenaria interpres morinella.** Ruddy Turnstone. Rare, as a rule, but not uncommon during the fall of 1911. Mr. Howell took the first specimen on August 28, 1911, and about a dozen more were seen in the next three weeks, the largest number noted at one time being a flock of five on September 12. This is unusual for Santa Barbara, as in 1910 none at all were observed, and it seems to be unusual for the rest of the state as well.

**Arenaria melanocephala.** Black Turnstone. Regular, but never common, fall migrant. None noted in spring. The earliest seen was one on July 29, 1910; the latest a flock of seven on October 15, 1910, in company with fifteen Hudsonian Curlew and two Marbled Godwits. Only two birds were seen in 1911; in fact the Ruddy Turnstones seemed to have almost entirely replaced *melanocephala* this fall.

## THROUGH TAHOEAN MOUNTAINS

By MILTON S. RAY

WITH THREE PHOTOS BY OLUF J. HEINEMANN

ON the twenty-fourth of June, 1909, Heinemann and I returned from our trip to Washoe Lake, Nevada, an account of which has appeared in a previous CONDOR. We remained at Bijou until the morning of June 28, at which time we started on a long tramp through the high mountains that surround Lake Valley at the southern end of Lake Tahoe.

Our first objective point was Star Lake, one of the loftiest in the region, having an altitude of about 9,000 feet. Although en route we traversed a region of much



Fig. 5. ICE-COVERED LAKE-OF-THE-WOODS WITH PYRAMID PEAK IN THE BACKGROUND;  
PHOTOGRAPHED JULY 1

interest to the ornithologist we failed to record anything particularly noteworthy. The only nest found on the entire day's trip was one of the Western Robin (*Planesticus migratorius propinquus*). This was on the Cold Creek Meadow, at about 7500 feet elevation, and contained four half-grown young. Returning from Star Lake, we spent the night at the Sierra House, on the edge of Lake Valley, and next morning continued on to the summit of the stage road, which we reached at half past three in the afternoon. An excursion to Lake Audrain took up the rest of the day, but failed to furnish any new material for our ornithological note-book.

The following morning (June 30) we started up the precipitous trail that leads over a lofty snow-covered range to Lake of the Woods. A few miles up the

trail Heinemann flushed a Sierra Junco (*Junco hyemalis thurberi*) from its nest, well concealed among weeds and containing two small young and an infertile egg. It was nearly dark when we reached the lake, which we found almost entirely frozen over, while most of the surrounding country was covered with snow. During the chilly night the ice-covered lake and its snowy shores, glittering in the moonlight, presented a landscape that seemed more like one in the dead of winter than on the first of July. In strange contrast to the cold nights, in these altitudes



Fig. 6. AN UNUSUAL NESTING SITE OF THE SIERRA JUNCO  
AT LAKE-OF-THE-WOODS

often so cold as to cause hardship to one camping out, the days were usually warm and pleasant, and at times extremely hot, which the snow by reflection increased rather than diminished. When the light of the welcome morning sun came filtering through the trees about our camp, we became aware of the presence of a pair of California Pine Grosbeaks (*Pinicola e. californica*) which were watched with that extreme interest which must ever be given to birds whose eggs remain unknown to science. The grosbeaks remained about our camp for some time, feeding on the ground and in the trees. If the birds were nesting I failed to gain any clue of it from their actions, for they flitted from branch to branch, and from tree to tree in a leisurely and unconcerned fashion, finally taking wing across the lake and disappearing in the heavy timber.

After a refreshing swim in the frigid waters of the lake we rambled along its shores for some distance. Near the water's edge where the snow had melted I found beneath an overhanging bush a well concealed nest of the Sierra Junco

with four large young. Farther on, one of the Audubon Warbler (*Dendroica auduboni*) was found eighteen feet up in a hemlock, also with four large young. The nest was made of weed stems, grasses, bark strips and rootlets, and lined with feathers. The limbs had the characteristic droop of trees in high altitudes and made the climb rather difficult. The most interesting nest found about the lake, however, was one of the Sierra Junco placed in a cavity of a fir stump three feet above the

ground, with four eggs well advanced in incubation. Being the first we have ever found in a situation of this kind we desired very much to secure a photograph of it. In this we experienced considerable difficulty and it was only by cutting a strip of wood out from the lower edge of the hole that we succeeded in making the eggs visible on the ground glass. Inspection showed the nest to be made of light-colored grasses and weed stems, and lined with the hair of various wild animals.

After a long journey over the ridge, down through Glen Alpine Gorge, along Fallen Leaf Lake and Lake Tahoe we came into Bijou at midnight. Before we left for home on July 5 a nest of particular interest was found, one of the Pacific Nighthawk (*Chordeiles virginianus hesperis*). This was found by Mr. Charles Young, on July 3, while riding horseback along one of the lower ridges southeast of Bijou. Returning with Mr. Young I found that the two fresh eggs were simply laid on the bare, rocky soil, surrounded by pine needles, the latter, however, not having been brought by the birds. A little pine sapling close by gave the eggs some slight



Fig. 7. EGGS OF THE PACIFIC NIGHTHAWK *in situ*

shelter. The elevation was about 6350 feet. On July 4 Heinemann and I accompanied by Mr. Richard Duttke, who had just arrived, revisited the spot, and the photograph shown herewith was taken.

An interesting addition to the Lake Valley checklist was the Bullock Oriole (*Icterus bullocki*), first noted on the Bijou camp ground on June 7, and several times afterwards. This bird, or these birds, were without doubt stragglers from Carson Valley, Nevada, which lies just over the summit east of Bijou. The fact that this summit is but very little higher than Lake Valley, accounts, I believe, for the presence of the oriole, as well as the many other lower zone birds more or less abundant in Lake Valley, such as the Mourning Dove (*Zenaidura macroura carolinensis*), House Finch (*Carpodacus mexicanus frontalis*), Western Bluebird (*Sialia mexicana occidentalis*) and Western Meadowlark (*Sturnella neglecta*).

## A VISIT TO NOOTKA SOUND

By H. S. SWARTH

WITH FOUR PHOTOS BY THE AUTHOR

SOMEWHAT over a hundred years ago, in the latter part of the eighteenth, and early in the nineteenth century, there were many visitors to this port who recorded their observations in print, it being at that time the objective point of the fur traders, while to government expeditions it was the one, almost the only, well known locality that could serve as a base of operations in the exploration of the dangerous and almost unknown northwest coast. Beginning with Captain Cook's "Voyages", there followed in rapid succession the narratives of Meares, Vancouver, Quadra, La Perouse, Cleveland, and others—English, Spanish, French and American, private adventurers and government officials, nearly all of whom gave more or less elaborate descriptive accounts of Nootka Sound, its inhabitants and resources.

With the decline of the fur trade, and the settlement of various international disputes centering about the place, as well as the discovery and exploitation of vast-



Fig. 8. THE VILLAGE OF FRIENDLY COVE, NOOTKA SOUND; AUGUST 6, 1910

ly more promising regions elsewhere on the Pacific, Nootka lost its place in public interest, and, out of the track of civilization, it has for many years been little more than a name, of interest to the historian, but otherwise almost forgotten.

The writer had occasion to visit the place in the summer of 1910, in pursuance of the work of zoological exploration being conducted upon Vancouver Island by the University of California Museum of Vertebrate Zoology. Our party was at this time reduced to two, Mr. E. Despard and myself, and it was with rather mixed feelings that we prepared for this trip, for many were the pessimistic tales we had heard as to physical conditions on the west coast, the drawbacks of canoe travel, and the impossibility of travel by land. Hence, though eagerly anticipating the opportunity of visiting this historic spot, we had some misgivings as to the probable success of the trip, measured by numbers of specimens secured.

A coasting steamer, the *Tees*, making monthly trips from Victoria up the west side of Vancouver Island, was boarded by us at Port Alberni, July 22. In an

air line the two points, Port Alberni and Friendly Cove, are not more than one hundred miles distant, but there are narrow, tortuous channels to be traversed between, and interminable stops at canneries, missions, and mines, so that it was the evening of the second day before we reached our destination, and steamed into Nootka Sound. The Sound is enclosed between Nootka Island and the mainland of Vancouver Island, and to our left, on Nootka Island, lay the little village of Friendly Cove. There is no wharf, and as soon as we had come to anchor a huge canoe put off from the shore, and approached the steamer. This, the property of the store-keeper and capable of holding a score of men, was a war canoe of former days, now reduced to the lowly task of transporting groceries and supplies! We made the acquaintance of Mr. H. L. W. Smith, the store-keeper and the only white inhabitant of the town, who gave us a cordial greeting, assisted us ashore, and did everything possible to make us comfortable.

Three large arms or inlets open from Nootka Sound, the Muchalat Arm extending eastward, Tlupana Arm to the northeast, and the Tahsis Canal, stretching due north. Upon our first arrival at Friendly Cove we remained only one night, and then, taking advantage of the temporary presence in the harbor of a small gasoline launch, had ourselves and outfit transported to the head of the Tahsis Canal, some twenty-five miles distant.

We spent a week at this camp (July 24 to August 2), with but moderate success. Our only object in going such a distance from Friendly Cove was the chance of securing specimens of the larger mammals, naturally driven back from the vicinity of the town, but, whatever the reason, we found big game decidedly more scarce here than at some other points nearer civilization. Wolves and panthers are numerous, though difficult to obtain in summer, and they had apparently driven out the deer, for in a week's time we hardly saw a fresh track of the latter.

On August 2 we returned to Friendly Cove. We secured the services of a trapper whom we found encamped on the Tahsis, and Mr. Smith also came to assist us in the moving. With some difficulty we stowed ourselves and outfit in the two small canoes, Smith and Despard in one, and Leiner (the trapper) and myself in the other. We started early, about 3 A. M., to avoid the wind which blew up the canal every day—thereby encountering swarms of tiny gnats also taking advantage of the calm weather—and alternately paddling and sailing, as occasional light puffs of wind came to our assistance, spent most of the day reaching our destination. Mr. Smith established us in a cabin about a mile from the village, where we found ourselves much more advantageously placed for collecting, and where we remained until our departure from the Sound, August 11.

On the whole Pacific northwest there is no place of greater historical interest than this former center of the fur trade, Nootka Sound, the name of which figured so conspicuously in the accounts of all the early explorations that it came to typify the entire region; but there is little about the place now to suggest its claims of former glory—that the first ship to be built on the Pacific northwest was launched here, and that at this point English and Spanish statesmen met to settle the differences of their respective nations, as to the claims of each upon the countries of the north Pacific. On one of the islands in the bay there is a monument commemorative of the "Nootka Treaty"—a compromise by which both nations withdrew from the port for the time being. From that day to this there has been no white settlement at Friendly Cove.

The earliest detailed description of the Sound is given by Captain Cook, in the history of his third voyage, though the Spaniards had probably been there some years before. Cook was there in March and April, 1778, and it was visited by



Meares, Vancouver, Dixon, and others, whose travels were published in the years immediately following. A later account of the place, and a very full one, is that contained in John Jewitt's Narrative. Jewitt was armourer on the *Boston*, an American ship trading on the northwest coast, which was seized by the Indians while lying in Nootka Sound, and the entire crew massacred, with the exception of Jewitt and one other man. This was in March, 1803, and the two were held as slaves from that time until they escaped in July, 1805. Jewitt kept a journal during his captivity, which was published later, in narrative form, a fascinating tale and a valuable account of the region. There is but little zoology contained in it, except as relating to such animals as the Indians depended on for food or clothing, the sea otter, seals, whales, bear, etc., but the description of the natives and their customs is intensely interesting, while the account of the geography and appearance of the sound, both in general and in detail, is such as to strongly impress a later visitor with the credibility of the narrative. A late edition (1896) of this book has been published, with an introduction and copious notes by Robert Brown. Dr.



Fig. 9. WATER FRONT AT FRIENDLY COVE, NOOTKA SOUND

Brown explored many parts of Vancouver Island in the sixties (among numerous contributions to the zoology, ethnology and geography of the region he published a list of the birds of Vancouver Island, in the *Ibis*, 1868), and he tells here of a visit to Friendly Cove in 1863.

With Captain Cook's account of the discovery and exploration of the bay in 1778, Jewitt's narrative of twenty-five years later, and Dr. Brown's careful exposition of conditions sixty years from that time, we have graphic pictures of this interesting spot at widely separated intervals. It is perhaps excusable for a later visitor to tell something of the place as it exists today, for it is remote from the usual track of the "tourist" or "tripper", and such, even should they stray so far, would doubtless see very little to interest them, for the greatest charm of the place, of course, lies in its memories and associations.

The Indian village of Friendly Cove has been where it is since before the coming of the white man, and the advantages of the site are so obvious that it had probably been occupied for ages previous to that time. The town is at the southeastern extremity of Nootka Island on a projecting spit, which is some half mile in length, perhaps a quarter of a mile across, from bay to ocean, quite level, barren

of timber, and covered with grass. At the extremity of the peninsula a string of rocky islets extends at right angles into the sound, giving the shelter that forms the cove, a placid, unruffled bay in almost any weather.

On the sheltered side is a beach a few hundred yards long, extending nearly the length of the town, an ideal landing for canoes, and in sunny weather a delightful place in which to loaf, bathe, and do laundry work, as we observed. This beach, however, is not of hard sand, but of a yielding, coarse gravel, in which one sinks ankle deep at every step, but on this rocky, precipitous coast one is not apt to be critical of such minor details. Above the beach is a short, steep rise of a few yards to the level ground beyond. On the seaward side of the peninsula is another fine stretch of beach, about two miles in length, and of the same general character, though with here and there short stretches affording firm, sandy footing. At the northern end of this beach, where the coast becomes more rocky and broken, is a large lagoon, opening into the sea and flooded by the tides, surrounded by grassy meadows, and with several streams flowing into its upper end. Above the outer beach, as elsewhere in the region except for the limited village site, the forest extends nearly to the high tide mark, impassably dense, dark and forbidding. About half a mile from the village, and only a stone's throw from the beach, is a small, shallow, freshwater lake, several acres in extent. This pond figures several times in Jewitt's narrative, but though he describes it as at that time surrounded by open woods, free from underbrush, we found the forest hereabouts, as elsewhere, choked with undergrowth, while, except in occasional spots, the shores of the lake were overhung and hidden with drooping willows and alders.

The town itself and its inhabitants, we found quite as interesting as the animal life we were there to study. Probably in many respects the straggling rows of cabins present an appearance not greatly unlike the village first seen by Captain Cook, for even in those days the northwestern coast Indians built rather elaborate wooden domiciles. True, many of the houses are now embellished with glass windows, and a few have more or less elaborate bay windows or even front porches, but these details cannot be seen at any distance, and at a close view most of the houses are quite satisfyingly old and weatherbeaten in appearance; while some even of the most pretentious, if approached from the rear, are seen to be there of ancient design and workmanship, contrasting strangely with the more modern and garish "front". It is doubtful if the village is as large as it was when Cook saw it, for he estimated the population at two thousand, and from the number of houses, it appears to be far below that at the present day. I had no other way of forming an estimate, for during the summer most of the able-bodied inhabitants are absent, fishing or working at the canneries, and the village had a very deserted aspect at the time of our visit.

Some distance behind the town, at the edge of the beach, and nearly hidden in the woods, is the Indian burying-ground, the graves embellished with the most extraordinary decorations. The ancient custom of these people to bury with the departed, or to adorn his tomb with his most cherished possessions, leads nowadays to most incongruous combinations. Above the various graves were to be seen among other things, a phonograph with several broken records, a sewing machine, an iron bedstead, and a carefully constructed, miniature full-rigged ship, all very much the worse for the weather they had been through.

The Indian tribes of the northwest coast, and the Moochahts, or so called "Nootka Indians", in particular, as one of the most powerful and warlike, have never been considered very trustworthy. The early history of the settlement of the region, aside from the almost incessant warfare carried on between the various



tribes, contains numerous accounts of the murders of traders and other visitors, with here and there some more conspicuous atrocity, such as the capture of the *Boston* or the destruction of the *Tonguin*. Even in recent years there have been occasions when cruelty and injustice, inflicted by reckless white men upon the despised "Siwash", have been followed by prompt and bloody retribution; and today the visitor to some of the more remote villages will be conscious of the black looks and surly demeanor of a portion of the population. It is interesting to note, however, an amiable weakness of these warlike savages, one noted by Jewitt and by Dr. Brown, and even at this late date corroborated by myself. Jewitt remarks on the Indians' fondness for biscuit and molasses, "which they prefer to any kind of food that we can offer them"; and the later writer, commenting upon this, speaks of a prospective Indian uprising being immediately allayed by the opening of a keg of treacle and a box of biscuit. During our stay at Friendly Cove two "potlatches" took place. The first was given by a hunter, who had fortunately secured four seals. These were cut up and boiled in a huge kettle on the beach, around which the village gathered, while the host served the dainties. The second feast made



Fig. 10. OUTER BEACH AT FRIENDLY COVE, NOOTKA SOUND

more of a stir, the generosity of some visiting timber cruisers one evening supplying the whole population with pilot bread and store jam, in return for certain dances, which were most cheerfully executed.

Another curious, and to me unexpected discovery, was that to this day Americans are known to the west coast Indians as "Boston men", Englishmen as "King George men". Changing circumstances have made the Briton's appellation appropriate once more, but it is doubtful whether a Californian or a Texan would recognize the suitability of the above classification!

The permanent white population of Friendly Cove, as indicated above, is limited to Mr. Smith, the store keeper. The whole of the peninsula has been set aside as a reservation, for the use of the Indians, and the store is held by lease. There is a Catholic mission here, a neat little church in carefully kept grounds, and a priest is resident during the winter months, but was away at the time of our visit.

The stay we made at the head of the Tahsis Canal enabled us to see a good deal of the Sound besides the immediate environs of Friendly Cove. The shores of the

canal, like most of the west coast, are rocky and abrupt; at only a few spots along its length are there limited areas of level and fairly open land, in every case occupied by Indian cabins, which were securely closed at this season, for their owners use them but a small portion of the year. "Tashees" is described by Jewitt as the winter home of the Indians, occupied from September until February. Our camp was quite at the head of the canal, in a cabin at an abandoned marble quarry. Three fairly large streams empty here, and there are rather extensive areas of meadow land. These meadows, though fair to the view, are very deceptive, and anything but easy to traverse, the grass waist high, or even shoulder high, and concealing innumerable logs, stumps, and masses of windfall, while the ground is everywhere intersected by a network of little ditches, also concealed. Some Indian cabins placed here are nearly hidden by the surrounding mass of nettles, elder, and salmonberry bushes.

The forests of the west coast must be seen to be appreciated. I had seen, as I supposed, densely forested regions in the eastern and central portions of Vancouver Island, and had also heard tales of west coast conditions, but these had not prepared me altogether for the jungle we entered. Everywhere, over hill and valley, is the dense impenetrable forest, Douglas fir and spruce, mostly, a tree wherever there is a possible foothold for one, and underneath a matted tangle quite impenetrable except along the water courses. Devils club and salmonberry bushes reach out long thorny branches in all directions, while everywhere is the bush we heard so abundantly vilified by woodsmen and hunters—the ubiquitous salal. On the east side of the island the latter occurs mainly as a small, rather innocuous shrub, easily trodden under foot, but it thrives on the west coast, forming thickets higher than a man's head, and as absolute a barrier as a stone wall. Altogether the forests appeared to me to be somewhat more tangled and impassable than the worst I had seen in south-eastern Alaska—more uniformly dense and without the welcome relief of the open "park" country so characteristic of some of the Alaska islands.

At one time there was a trail from the head of the Tahsis Canal across the island to Alert Bay, on the east coast, but we were unable to find any trace of it. The trapper we found encamped here was unaware of its existence, though he had blazed a trail for some miles over what was probably the same route, following up one of the streams.

The naturalist's interest in Nootka Sound is due to the fact that the earliest explorers secured here numerous specimens of animals and plants new to the scientists of the period, and hence serving as types of the several species. The birds known to have been first described from this spot are the Rufous Hummingbird, Red-breasted Sapsucker, Blue-fronted Jay, and Varied Thrush, and it was partly the search for "topotypes", always interesting but frequently elusive and exasperating, that brought me to Nootka.

Our collecting ground at Friendly Cove was of about as varied a nature as could be found in a similar area anywhere in the region. The trail between our cabin and the village passed the whole distance through the woods, while from the rear of the store another trail, a short cut through the forest, led to the outer beach, which could also be reached in a more roundabout way by passing through the village. The outer beach, the lake already referred to, and occasionally the more distant lagoon, were abundant ground to cover in a morning, and were about the best places for birds. We secured three of the four especial desiderata. The sapsucker we did not see, though here and there I ran across the handiwork of the species on the trees. Hummingbirds were not common, though some were seen every day; the adult males had already departed for the south, but specimens of

females and immatures were secured. The jays were exasperatingly scarce, considering that in the vicinity of former camps in other parts of Vancouver Island they were frequently the most abundant species of bird. However, by following up every one seen or heard, we finally secured eight specimens. Of the Varied Thrushes we obtained about as many.

Following is a list of the birds seen at Nootka Sound, both at the Tahsis Canal camp and at Friendly Cove, during the time we were there, July 23 to August 11.



Fig. 11. LOOKING UP THE TAHISIS CANAL, NOOTKA SOUND, FROM AN ISLET IN THE BAY AT FRIENDLY COVE

Besides these, numbers of gulls, scoters, and phalaropes were seen, but under circumstances not permitting of absolute specific identification.

*Gavia immer*  
*Brachyramphus marmoratus*  
*Cepphus columba*  
*Mergus americanus*  
*Histrionicus histrionicus*  
*Ardea herodias fannini*  
*Pisobia minutilla*  
*Ereunetes mauri*  
*Actitis macularius*  
*Aegialitis semipalmata*  
*Bonasa umbellus sabini*  
*Columba fasciata*  
*Accipiter velox*  
*Halizetus leucocephalus alascanus*  
*Pandion haliaetus carolinensis*  
*Ceryle alcyon caurina*  
*Dryobates villosus harrisi*  
*Colaptes cafer saturator*  
*Cypseloides niger borealis*  
*Selasphorus rufus*  
*Nuttallornis borealis*  
*Empidonax difficilis*  
*Empidonax traillii*

*Empidonax hammondi*  
*Cyanocitta stelleri*  
*Corvus corax principalis*  
*Corvus brachyrhynchos caurinus*  
*Melospiza melodia rufina*  
*Passerella iliaca fuliginosa*  
*Bombycilla cedrorum*  
*Vermivora celata lutescens*  
*Dendroica aestiva rubiginosa*  
*Dendroica townsendi*  
*Oporornis tolmiei*  
*Wilsonia pusilla pileolata*  
*Cinclus mexicanus unicolor*  
*Nannus hiemalis pacificus*  
*Certhia familiaris occidentalis*  
*Sitta canadensis*  
*Penthestes rufescens*  
*Regulus satrapa olivaceus*  
*Hylocichla ustulata*  
*Hylocichla guttata nanus*  
*Planesticus migratorius caurinus*  
*Ixoreus naevius*

## SOME BIRDS OF SOUTHWESTERN MONTANA

By ARETAS A. SAUNDERS

WITH ONE MAP

THE REGION covered by this list includes Deer Lodge, Silver Bow, Jefferson, and the southern portion of Powell counties, Montana. It is mountainous in character, extending from about 4100 feet to over 11,000 feet in elevation. The continental divide crosses the region from southwest to northeast. There are two main valleys in the region, the Deer Lodge valley, west of the continental divide, and the Jefferson valley, east of it. These valleys extend from 4100 to 5500 feet in elevation and lie in the Transition Zone. The mountains are principally above 5500 feet and lie in the upper Transition, Canadian and Hudsonian zones.

The valleys consist of open grass lands, the better parts of which are settled and under irrigation, crossed by streams that are lined with thickets of willow and

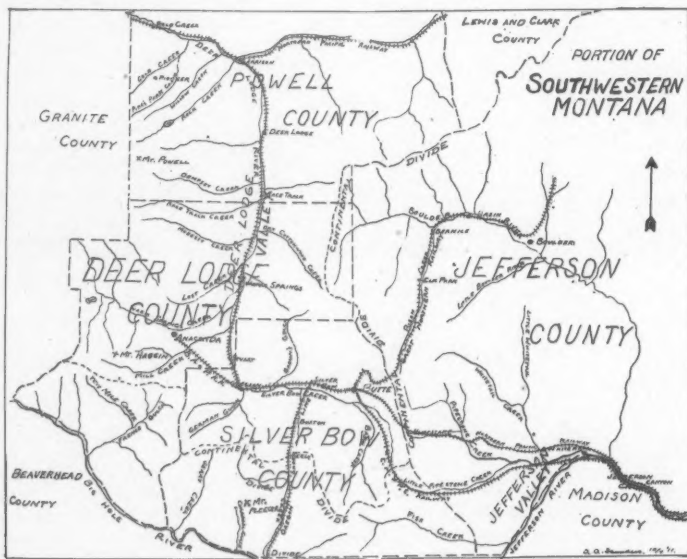


Fig. 12

groves of cottonwood. The mountains form the richest mining district of Montana. They are very rough and rocky in character, and are covered with evergreen forests, consisting principally of lodgepole pine, Douglas fir, Engelmann spruce and alpine fir. A large part of this timber, particularly in the near vicinity of Butte and Anaconda, has been cut over, so that a large amount of the present stand consists of second growth.

The material for this list is obtained almost entirely from my own observations. These covered a period from August, 1909, to June, 1911, with one or two short absences, principally during the winter months. During this period I was assigned to work on the Deerlodge National Forest, and in the course of the work covered the mountainous parts of the region quite thoroughly. Observations in the valleys

were much less thorough and covered shorter periods of time, and for that reason I feel that the list of valley birds is far from complete. Although this is the most thickly settled portion of Montana, there has, to my knowledge, been nothing previously published by other observers on the birds of this region. For a more extended account of the nesting habits of some of the birds listed the reader is referred to *THE CONDOR*, XII, pp. 195-204.

***Colymbus nigricollis californicus*.** Eared Grebe. Migrant. A flock numbering approximately 175 was seen on Rock Creek Lake, Powell County, on September 17, 1910. This flock was composed mostly of young birds, who kept together in a body in the middle of the lake, and appeared to be resting but not feeding. A wounded bird of this species was captured near Butte in late May, 1911, and kept alive for several days in a small tank in a café window in Anaconda.

***Mergus serrator*.** Red-breasted Merganser. Seen near Buxton, Silver Bow County, on May 6, 1910, and near Anaconda, Deer Lodge County, May 1, 1911.

***Anas platyrhynchos*.** Mallard. A common migrant in the valleys. A few remain to breed in suitable localities, and a few also winter wherever warm springs keep the water from freezing. The first spring migrants are usually seen early in April.

***Mareca americana*.** Baldpate. Seen near Buxton May 7, 1910, and near Anaconda on several occasions from April 20 to May 27, 1911.

***Nettion carolinense*.** Green-winged Teal. An abundant migrant and probably also a summer resident. Late in August, 1910, both this and the next species became very abundant throughout the Deer Lodge valley. Residents of the region claimed that they were much more abundant than usual at that season, and believed that it was because of the forest fires that were raging at that time farther north and west in Montana, which had driven them from their breeding grounds earlier than usual. The same was true of the Mallard to a lesser extent, and perhaps of other species of ducks. Migration dates for this species are April 23, 1910, April 23, 1911, and October 30, 1910. It winters rarely, as one was observed near Anaconda January 8, 1911.

***Querquedula discors*.** Blue-winged Teal. Common migrant and probably also summer resident. Migration dates are April 23, 1911, and September 26, 1910.

***Querquedula cyanoptera*.** Cinnamon Teal. I saw a pair of these birds on the Silver Bow marshes, May 21, 1911.

***Spatula clypeata*.** Shoveller. Common migrant. Observed September 25, 1910, and from April 30 to May 14, 1911.

***Clangula clangula americana*.** Golden-eye. A common winter resident in the canyon of the Jefferson River below Whitehall.

***Erismatura jamaicensis*.** Ruddy Duck. An adult female of this species was captured alive near Anaconda in October, 1910, and was kept alive in a small tank in a café window for some time, in company with a Green-winged Teal and a Coot.

***Branta canadensis* (subspecies?).** Canada Goose. A regular migrant. Seen in flight overhead, but seldom alighting in this region and rarely secured by hunters.

***Olor columbianus*.** Whistling Swan. A regular migrant. In my list of the Birds of Gallatin County, Montana (*Auk* XXVIII, pp. 26-49), I recorded this species as the common migrant swan, though with considerable hesitation because there were no definite data to show that this species had ever occurred in Montana. Recently, however, I have strengthened my belief that this is the common migrant species in the state, by examining two specimens. One of these consists of the head and wing of a young bird that was shot by Mr. Rheesis Fransham in the

Gallatin Canyon. The other was the remains of an adult that I found on the shores of an alkaline lake near Chouteau, Teton County, the head and bill of which were uninjured. From the position of the nostril I identified both of these birds as *O. columbianus*. For this reason I have listed *O. columbianus* as the species occurring in this region. I believe that the Trumpeter Swan (*O. buccinator*) occurs, and still breeds in some favored portions of the state, but the proof is lacking and it is certainly not as common as *O. columbianus*.

**Ardea herodias herodias.** Great Blue Heron. Summer resident along the Jefferson River. Not seen elsewhere.

**Grus mexicana.** Sandhill Crane. A pair seen in the Deer Lodge valley near Stuart, April 16, 1911.

**Porzana carolina.** Sora. Noted several times in the Pipestone Basin, Jefferson County, in June, 1910, and in the marshes near Anaconda May 14, 1911.

**Fulica americana.** Coot. An occasional migrant in the Deer Lodge valley.

**Recurvirostra americana.** Avocet. An occasional migrant in the Silver Bow marshes in August and September. Local hunters call them "English Curlew".

**Gallinago delicata.** Wilson Snipe. A common migrant throughout the region, and an occasional summer resident. I found a nest of this species in Pipestone Basin, Jefferson County, on June 12, 1910.

**Helodromas solitarius solitarius.** Solitary Sandpiper.

**Helodromas solitarius cinnamomeus.** Western Solitary Sandpiper. This species is a common fall migrant throughout the region in August and September. On August 20, 1910, I secured specimens referable to both subspecies on Gold Creek, Powell County.

**Actitis macularius.** Spotted Sandpiper. A common summer resident throughout the region. On July 31, 1911, I found young of the year quite abundant along the Hell Gate River, Powell County. One half-grown bird that was unable to fly, got cornered between a steep bank and a small pool of water while running away from me, and, when I followed, took to the water and swam to escape me. The water was but a few inches deep and I waded out to catch it, when it surprised me by diving and swimming under water. It could be plainly seen under water, and used both wings and feet. The plumage while under water was covered with air bubbles which gave it a silvery appearance.

**Numenius americanus.** Long-billed Curlew. Summer resident of the Lower Jefferson and Deer Lodge valleys. Seen in migration once near Anaconda, May 14, 1911.

**Oxyechus vociferus.** Killdeer. Common summer resident in the valleys, particularly in the cultivated and irrigated sections. Migration dates are April 8, 1910, and September 13, 1910.

**Colinus virginianus virginianus.** Bob-white. Introduced locally in the Deer Lodge valley, but not yet common.

**Dendragapus obscurus richardsoni.** Richardson Grouse. Resident in the mountains. Becoming quite scarce, particularly in the vicinity of Butte.

**Canachites franklini.** Franklin Grouse. Resident of the higher mountains. I believe that Jefferson County forms the eastern limit of the range of this species in Montana. Experience seems to show that in Montana this species ranges east to the eastern slopes of the continental divide, but is not found in any of the mountain ranges that are entirely east of the divide. A male bird secured in Jefferson County in October, 1909, had the white-tipped tail of this species but lacked the white markings of the upper tail coverts. Dr. L. B. Bishop examined this specimen and considered it a probable hybrid between this species and *C. canadensis*.



**Bonasa umbellus togata.** Canadian Ruffed Grouse. Common permanent resident throughout the region. To date I have not met *B. u. umbelloides* anywhere in southwestern Montana, but all the birds I have taken or seen closely have been referable to *B. u. togata*. I believe that further investigation will show that *B. u. umbelloides* is a bird of lower elevations, occurring commonly in eastern and northwestern Montana but entirely replaced by *B. u. togata* in southwestern Montana, where even the valleys are mostly above 4500 feet in elevation.

**Pedioecetes phasianellus** (subspecies?). Sharp-tailed Grouse. Resident of the Jefferson and Deer Lodge valleys. Now quite rare in the latter place. I have taken no specimens and am not certain which subspecies the birds are referable to.

**Centrocercus urophasianus.** Sage-hen. Hunters familiar with this region in the past, state that the Sage-hen was formerly abundant in the sage-brush plains about Silver Bow. It is now probably entirely extinct in the region.

**Zenaidura macroura carolinensis.** Mourning Dove. A common summer resident of the valleys. Migration dates are May 29, 1910, September 26, 1910, and April 29, 1911. The latter is an exceptionally early date.

**Cathartes aura septentrionalis.** Turkey Vulture. Seen November 1, 1910, on a high divide between Dry Cottonwood Creek and Brown's Gulch, the boundary line of Deer Lodge and Silver Bow counties. Mr. George Norton, a forest ranger stationed on Dry Cottonwood Creek, states that these birds are permanent residents, and that he believes that a pair breed each year on a high hill back of his station.

**Circus hudsonius.** Marsh Hawk. Summer resident in the valleys. Breeds commonly in the marshes near Anaconda. Most abundant and noticeable in August and September.

**Accipiter velox.** Sharp-shinned Hawk. Common summer resident. I found several broods of young with their parents, in thickets of young spruce on Gold Creek, Powell County, in August. Seen once in winter at Silver Bow, January 2, 1911.

**Accipiter cooperi.** Cooper Hawk. Summer resident throughout the region but rather commoner in migration.

**Buteo borealis calurus.** Western Red-tail. Common summer resident in the mountains. Migration dates are April 5, 1910, and October 9, 1910.

**Buteo swainsoni.** Swainson Hawk. Seen but twice, at Silver Bow April 8, 1910, and in the lower Deer Lodge valley August 17, 1910.

**Archibuteo ferrugineus.** Ferruginous Rough-leg. Quite common about Gold Creek, Powell County, in August, 1910. Seen but once elsewhere, on Pipestone Creek, Jefferson County, October 9, 1910.

**Aquila chrysaetos.** Golden Eagle. Seen only in Deer Lodge County. Said to be quite common on the Big Hole River in the southwestern part of the county.

**Falco mexicanus.** Prairie Falcon. Seen quite commonly about Gold Creek, Powell County, in July and August, 1910.

**Falco peregrinus anatum.** Duck Hawk. Observed in spring migrations in several places in Deer Lodge and Silver Bow counties, on March 23, and April 19 and 20, 1910, and April 23, 1911.

**Falco sparverius phalaena.** Desert Sparrow Hawk. Common summer resident in the valleys. Migration dates are April 27, 1910, and September 25, 1910.

**Pandion haliaetus carolinensis.** Osprey. Seen on the Big Hole River, Silver Bow County, May 1 and 6, 1910.

**Asio wilsonianus.** Long-eared Owl. One secured on Mill Creek, Deer Lodge County, August 27, 1909. Another seen near Homestake, Jefferson County, June 25, 1910. In both cases the birds came about our camp fire in the early evening, apparently attracted by the light.

*Asio flammeus*. Short-eared Owl. Seen occasionally in the valleys. Evidently breeds in the marshes near Anaconda.

*Cryptoglaux acadica acadica*. Saw-whet Owl. Probably resident in the mountains throughout the region. Seen or heard in all the counties except Deer Lodge.

*Bubo virginianus pallescens*. Western Horned Owl. Resident throughout the region but much commoner about Gold Creek, Powell County, than elsewhere.

*Nyctea nyctea*. Snowy Owl. Occasional winter visitor in the valleys throughout the region.

*Glaucidium gnoma gnoma*. Pigmy Owl. Seen in German Gulch, Silver Bow County, May 16, 1910.

*Ceryle alcyon*. Belted Kingfisher. Common summer resident throughout the region.

*Dryobates villosus monticola*. Rocky Mountain Hairy Woodpecker. Common permanent resident. Broods of young were very common about Gold Creek, Powell County, in August, 1910.

*Dryobates pubescens homorus*. Batchelder Woodpecker. Permanent resident throughout the region but not common. Seen more frequently at lower elevations.

*Picoides arcticus*. Arctic Three-toed Woodpecker. An adult female taken on Divide Creek, Silver Bow County, April 20, 1910. Another observed at Elk Park, Jefferson County, September 8, 1910.

*Picoides americanus americanus*. Three-toed Woodpecker. An adult female secured on Pipestone Creek, Jefferson County, October 6, 1909, was referable to this subspecies.

*Picoides americanus dorsalis*. Alpine Three-toed Woodpecker. Observed several times in Silver Bow and Jefferson counties but not common. An adult male referable to this subspecies was taken in German Gulch, Silver Bow County, May 25, 1910.

*Sphyrapicus varius nuchalis*. Red-naped Sapsucker. A pair found nesting near Homestake, Jefferson County, in June, 1910, were the only ones observed.

*Sphyrapicus thyroideus*. Williamson Sapsucker. Observed on Divide Creek and Charcoal Gulch, Silver Bow County, on April 23 and 30, 1910. A nest containing young was found on Little Pipestone Creek, Jefferson County, July 6, 1910.

*Phloeotomus pileatus abieticola*. Northern Pileated Woodpecker. Abundant in the yellow pine and fir forests on Gold Creek and Willow Creek, Powell County. Not observed elsewhere in the region.

*Asyndesmus lewisi*. Lewis Woodpecker. Summer resident at lower elevations throughout the region. In my experience this species is not a bird of the mountains in Montana, but occurs principally below 5,000 feet in the Transition Zone, and is most abundant in cottonwood groves along the larger streams. I found a nest containing young in a dead cottonwood near Garrison, Powell County, July 26, 1910. Broods of young were very abundant about Gold Creek, Powell County, in late July and August. Migration dates are May 1, 1910, and September 21, 1910.

*Colaptes auratus luteus*. Northern Flicker.

*Colaptes cafer collaris*. Red-shafted Flicker. Flickers are common summer residents throughout the region. Most of the birds are hybrids or typical of the Red-shafted species, but yellow-shafted birds are not rare. Migration dates are March 29, 1910, and October 13, 1910.

*Chordeiles virginianus henryi*. Western Nighthawk. Common summer resident throughout the region. Newly hatched young were found on Pikes Peak Creek, Powell County, on August 6, 1910. Migration dates are June 2, 1910, and August 28, 1910.



*Chordeiles virginianus sennetti*. Sennett Nighthawk. A bird secured on Gold Creek, Powell County, August 26, 1910, was referable to this subspecies.

*Selasphorus rufus*. Rufous Hummingbird. Summer resident. Migration dates are May 30, 1910, and September 11, 1909, and August 24, 1910.

*Stellula calliope*. Calliope Hummingbird. An adult male seen on Fish Creek, Silver Bow County, July 13, 1910.

*Tyrannus tyrannus*. Kingbird. Summer resident of the valleys throughout the region.

*Nuttallornis borealis*. Olive-sided Flycatcher. Summer resident in the mountains. Migration dates are May 31, 1910, and September 5, 1909.

*Myiochanes richardsoni richardsoni*. Western Wood Pewee. Summer resident in cottonwood groves in the valleys. Rare above 4,500 feet elevation.

*Empidonax hammondi*. Hammond Flycatcher. Fairly common summer resident in the mountains of Jefferson and Silver Bow counties. Not seen elsewhere. First noted in spring May 28, 1910.

*Empidonax wrighti*. Wright Flycatcher. Noted commonly in migration in late May and August.

*Otocoris alpestris arctica*. Pallid Horned Lark. Winter resident in the valleys. Not common.

*Otocoris alpestris leucolaema*. Desert Horned Lark. Common summer resident of the valleys. Migration dates are March 3, 1910, and November 6, 1910.

*Pica pica hudsonia*. Magpie. Abundant permanent resident throughout the region.

*Cyanocitta stelleri annectens*. Black-headed Jay. Permanent resident in the mountains. Well distributed throughout the region but not common anywhere.

*Perisoreus canadensis capitalis*. Rocky Mountain Jay. Permanent resident in the mountains. In my experience this species keeps carefully out of sight and hearing during the spring and early summer months, and is apparently quite rare. Early in August it becomes suddenly abundant, and from then until next spring is one of the commonest and tamest of mountain birds.

*Corvus brachyrhynchos hesperis*. Western Crow. Summer resident. Migration date March 26, 1910. This species begins nesting in late April or early May, placing the nest ten or fifteen feet above the ground, in a willow or alder bush. It is usually in the most impenetrable part of a thicket, where the nest can be seen from a distance but not approached. It is easy to locate the nest, however, as the birds are usually on guard near it, perched conspicuously in the top of the thicket.

*Nucifraga columbiana*. Clarke Nutcracker. Common permanent resident in the mountains throughout the region. Broods of young are seen commonly during May and early June.

*Molothrus ater ater*. Cowbird. Common summer resident of the valleys. A pair secured near Anaconda in May, 1911, were referred by Dr. Bishop to the subspecies which he has recently described as *M. a. dwighti*.

*Xanthocephalus xanthocephalus*. Yellow-headed Blackbird. Summer resident in the lower Jefferson and Deer Lodge valleys. Seen but once elsewhere in the region, in the Silver Bow marshes, May 21, 1911.

*Agelaius phoeniceus fortis*. Thick-billed Red-wing. Summer resident in the Silver Bow marshes, and in suitable localities in the Jefferson and Deer Lodge valleys. Migration date April 7, 1910.

*Sturnella neglecta*. Western Meadowlark. Common summer resident of the valleys. Migration date March 29, 1910.

*Euphagus cyanocephalus*. Brewer Blackbird. Common summer resident.

Migration dates are April 24, 1910, May 12, 1911, and October 11, 1910.

*Hesperiphona vespertina montana*. Western Evening Grosbeak. A pair seen on Willow Creek, Powell County, September 14, 1910.

*Pinicola enucleator montana*. Rocky Mountain Pine Grosbeak. These birds are regular migrants and occasional winter residents in the mountains. I have not yet seen them in summer, but have found them at high elevations in late April and early September.

*Carpodacus cassini*. Cassin Purple Finch. Summer resident in the mountains, abundant during the migrations. My fall migration dates are from August 25, to September 9, 1910. The spring migrations appear to be very irregular, since I noticed this species from April 22 to May 18 in 1910, and from May 27 to June 10, 1911.

*Loxia curvirostra minor*. Crossbill. Abundant in the yellow pine forests about Gold Creek, Powell County, in July and August, 1910. Seen elsewhere in the region in but one place, in the mountains near Elk Park, Silver Bow County, September 2 to 8, 1910.

*Leucosticte tephrocotis tephrocotis*. Gray-crowned Rosy Finch.

*Leucosticte tephrocotis littoralis*. Hepburn Rosy Finch. Flocks of Rosy Finches, containing birds of both subspecies, though principally *L. t. tephrocotis*, are abundant during the migrations. Migration dates are March 12, 1910, October 29, 1910, and from March 19 to May 8, 1911. *L. t. tephrocotis* was also seen on May 27 in company with the next species, but *L. t. littoralis* was evidently absent this time.

*Leucosticte atrata*. Black Rosy Finch. On May 27, 1911, after a late spring snow-storm, I found a large flock of Rosy Finches near Anaconda. The flock, which I estimated to contain about 5,000 birds, was composed of about 90% of the gray-crowned species and 10% this species. I secured an adult male of this species which I found to be in advanced breeding condition. Four of the gray-crowned birds, which I could not avoid shooting with the black one, were also in breeding condition, but not nearly so far advanced. I believe that later investigation will show that the Black Rosy Finch breeds in the high mountains west of the Deer Lodge Valley. I did not have opportunity to visit these mountains during the proper season, but once when near the summit of Mount Haggin in early September, 1909, I saw a few birds which, because of the flight and call-note, I took to be Rosy Finches, but could not identify more certainly. I believe that this is the first recorded occurrence of the Black Rosy Finch in Montana.

*Acanthis linaria linaria*. Redpoll. Common winter resident in the valleys. In 1911 seen up to April 26, in company with Rosy Finches.

*Astragalinus tristis pallidus*. Western Goldfinch. Summer resident in the valleys. Not common.

*Spinus pinus*. Pine Siskin. Summer resident in the mountains. Migration dates are May 12, 1910, September 24, 1909, and September 8, 1910. This species also breeds occasionally in the valleys in the Transition Zone. I have seen it in cottonwood groves near Gold Creek, at an elevation of 4,100 feet, in July.

*Calcarius lapponicus lapponicus*. Lapland Longspur. Seen in the Deer Lodge valley near Race Track, October 30, 1910, and near Anaconda, May 30, 1911.

*Poocetes gramineus confinis*. Western Vesper Sparrow. Common summer resident in the valleys and mountain meadows. Migration dates are April 27, 1910, April 20, 1911, September 26, 1909, and September 21, 1910.

*Passerculus sandwichensis savanna*. Savannah Sparrow. Common summer resident. Migration dates are May 6, 1910 and May 12, 1911. During the spring migration in 1911 there was a heavy flight of Savannah Sparrows in the Deer Lodge

valley. From May 14 to 28 they were extremely abundant in grass lands throughout the valley.

*Zonotrichia leucophrys leucophrys*. White-crowned Sparrow. Common summer resident in the mountains. Migration date May 10, 1911. Breeds commonly on cut-over lands on the lower mountain slopes near Anaconda.

*Zonotrichia leucophrys gambeli*. Gambel Sparrow. Common migrant in the valleys and lower mountains. Migration dates are May 5-12, 1910, April 29-May 14, 1911, and September 21-October 9, 1910. I have yet to find this subspecies in Montana during the breeding season. I am inclined to think that the A. O. U. Check-List is in error in including Montana in the breeding range of this form and not in that of *Z. l. leucophrys*. I have found the latter a common breeding bird of the Canadian and upper Transition zones in all parts of western Montana that I have visited.

*Spizella monticola ochracea*. Western Tree Sparrow. Common winter resident in the valleys. Migration date October 30, 1910.

*Spizella passerina arizonae*. Western Chipping Sparrow. Common summer resident in the mountains. Migration dates are May 8, 1910, and May 5, 1911.

*Junco hyemalis connectens*. Shufeldt Junco.

*Junco hyemalis montanus*. Montana Junco. These two subspecies are common migrants but are difficult to separate. I have secured birds of both forms in the region however. Migration dates are March 10 to April 5, 1910, September 27 to October 13, 1909, and September 8 to October 14, 1910.

*Junco hyemalis mearnsi*. Pink-sided Junco. Common summer resident in the mountains. Migration dates are March 23, 1910, April 20, 1911, September 30, 1909, and September 25, 1910.

*Melospiza melodia montana*. Mountain Song Sparrow. Common summer resident of the valleys and mountains up to 7,000 feet elevation. Migration date March 31, 1910.

*Melospiza lincolni lincolni*. Lincoln Sparrow. Common summer resident in willow thickets along mountain streams. Migration date June 3, 1910.

*Melospiza georgiana*. Swamp Sparrow. A single bird of this species was observed closely at Elk Park, Silver Bow County, September 8, 1910. This makes, I believe, the second record of this species in Montana.

*Passerella iliaca schistacea*. Slate-colored Fox Sparrow. Common summer resident of willow thickets along the lower mountain streams. Migration dates, April 11, 1910, and August 27, 1910. This species is not common in the immediate vicinity of Anaconda, although conditions here seem to be as well suited to it as anywhere else in the region.

*Pipilo maculatus arcticus*. Arctic Towhee. Seen but once, near Anaconda, April 15, 1911.

*Oreospiza chlorura*. Green-tailed Towhee. Observed once, on Fish Creek, Silver Bow County, July 21, 1910.

*Zamelodia melanocephala*. Black-headed Grosbeak. Summer resident of willow thickets in the valleys. Migration dates are May 28, 1911, and August 27, 1910.

*Passerina amoena*. Lazuli Bunting. Common summer resident of the foothills, frequenting wild-rose thickets below 5,500 feet. Migration dates are May 23, 1910, and August 28, 1910.

*Calamospiza melanocorys*. Lark Bunting. Two birds of this species were seen in the Deer Lodge valley May 14, 1911.

*Piranga ludoviciana*. Western Tanager. Common summer resident of fir forests in the mountains. Migration dates are June 5, 1910, May 29, 1911, and

August 27, 1910. This species was very abundant in fall migration on Gold Creek, Powell County, after August 18, 1910.

*Petrochelidon lunifrons lunifrons*. Cliff Swallow. Common summer resident in the valleys. Migration dates are May 30, 1910, and May 28, 1911.

*Hirundo erythrogastra*. Barn Swallow. Summer resident in the valleys.

*Tachycineta thalassina lepida*. Northern Violet-green Swallow. Summer resident. Migration dates May 6, 1910, and May 12, 1911.

*Stelgidopteryx serripennis*. Rough-winged Swallow. Summer resident. Not common, but seen in the valleys throughout the region. Migration dates May 30, 1910, and May 21, 1911.

*Bombycilla garrula*. Bohemian Waxwing. Winter resident. Migration dates October 13, 1910, and March 29, 1910.

*Bombycilla cedrorum*. Cedar Waxwing. Summer resident. I found a nest containing young near Anaconda, August 17, 1910.

*Lanius borealis*. Northern Shrike. Winter resident in the valleys. Migration date October 23, 1910.

*Lanius ludovicianus migrans*. Migrant Shrike. On May 14, 1911, I secured a bird of this species, which Dr. Bishop stated was certainly not *L. l. excubitorides* and believed was probably of this subspecies.

*Vireosylva olivacea*. Red-eyed Vireo. One seen near Anaconda June 3, 1911.

*Vireosylva gilva swainsoni*. Western Warbling Vireo. Common summer resident. Most abundant in aspen groves in the mountains. Migration dates May 28, 1910, June 3, 1911, and August 27, 1910.

*Lanivireo solitarius cassini*. Cassin Vireo. I saw several of these birds on Willow Creek, Powell County, September 12 and 13, 1910.

*Vermivora celata* (subspecies?). Orange-crowned Warbler. Summer resident in the mountains. More abundant in migrations. Occurs in the breeding season principally in aspen groves. Migration dates May 28, 1910, May 27, 1911, and September 4, 1909.

*Dendroica aestiva aestiva*. Yellow Warbler. Common summer resident of the valleys. Migration dates May 28, 1910, and May 21, 1911.

*Dendroica auduboni auduboni*. Audubon Warbler. Summer resident in the mountains. Migration dates May 6, 1910, May 1, 1911, and September 30, 1909.

*Seiurus noveboracensis notabilis*. Grinnell Water-Thrush. Seen twice in German Gulch, Silver Bow County, May 16, 1910, and on Gold Creek, Powell County, August 20, 1910.

*Oporornis tolmiei*. Macgillivray Warbler. Summer resident in the foothills up to 5,500 feet.

*Geothlypis trichas occidentalis*. Western Yellowthroat. Summer resident of the valleys and foothills to about 5,500 feet. Migration dates are May 21, 1911, and September 21, 1910.

*Wilsonia pusilla pileolata*. Pileolated Warbler. Summer resident of willow thickets in the mountains above 5,500 feet. Occurs in the valleys in migrations. Migration dates are May 28, 1910, May 14, 1911, September 14, 1909, and September 17, 1910.

*Setophaga ruticilla*. Redstart. Rather rare summer resident. Migration dates May 28, 1910, May 21, 1911, and August 21, 1910.

*Anthus rubescens*. Pipit. Regular fall migrant in the valleys, usually found in company with Horned Larks. Also very abundant in the spring of 1911, though this is the only year that I have seen it in spring in Montana. Migration dates are September 14 to October 17, 1909, September 11 to October 23, 1910, and April 15 to May 20, 1911.

**Cinclus mexicanus unicolor.** Dipper: Permanent resident along mountain streams. Not very common in this region, probably because the streams are mostly small and many of them kept continually muddy by placer mining. Though a permanent resident a noticeable migration takes place in March and October, when individuals may be found far from their usual haunts, occasionally in the valleys, and often swimming on the surface of mountain lakes. They winter commonly along Warm Springs Creek, near Anaconda and along the Boulder River, in Jefferson County, places where to my knowledge they are never found in summer.

**Oreoscoptes montanus.** Sage Thrasher. Seen in the sage-brush near Silver Bow, May 21, 1910.

**Dumetella carolinensis.** Catbird. Summer resident in the valleys. Migration date May 28, 1911.

**Salpinctes obsoletus obsoletus.** Rock Wren. Summer resident in suitable localities up to 6,000 feet. Migrations appear to be irregular. In 1910 a single individual was seen on April 13 and the species became common on May 1. In 1911 none were seen until May 20. Fall dates are September 8, 1909, and September 18, 1910. The record for September 8, 1909, is that of a pair of birds seen in slide rock, near the head of Ten-mile Creek, Deer Lodge County, at an elevation of 9,500 feet, more than 3,000 feet higher than the species usually occurs.

**Nannus hiemalis pacificus.** Western Winter Wren. Seen in German Gulch, Silver Bow County, on May 23 and 24, 1910, and one secured on the latter date. Another seen on Gold Creek, Powell County, August 15, 1910.

**Telmatodytes palustris plesius.** Western Marsh Wren. Seen near Gold Creek, Powell County, September 21, 1910, and near Anaconda, April 18, 1911. Specimens were secured on both dates and referred to this subspecies by Dr. Bishop, though one of the Anaconda specimens was not typical but like *T. p. iliacus* in some respects.

**Certhia familiaris montana.** Rocky Mountain Creeper. Summer resident of spruce forests in the mountains. Migration dates are April 26, 1910, October 14, 1909, and October 9, 1910.

**Sitta carolinensis nelsoni.** Rocky Mountain Nuthatch. Summer resident in the mountains but not common. Seen most frequently at high elevation in white-bark pine forests in September and October.

**Sitta canadensis.** Red-breasted Nuthatch. Summer resident in the yellow pine forests of Powell County. A migrant elsewhere in the region. Migration dates are April 18, 1910, and October 2, 1909.

**Penthestes atricapillus septentrionalis.** Long-tailed Chickadee. Common permanent resident of the willow thickets and cottonwood groves of the valleys.

**Penthestes gambeli gambeli.** Mountain Chickadee. Common permanent resident of the mountains.

**Regulus satrapa olivaceus.** Western Golden-crowned Kinglet. Summer resident of spruce forests in the mountains. Most abundant in migrations. According to the *Check-List*, *R. s. satrapa* should be the breeding form in Montana. Perhaps this is the case, for though I have taken several birds referable to *R. s. olivaceus*, they have all been fall migrants and not breeding birds.

**Regulus calendula calendula.** Ruby-crowned Kinglet. Abundant summer resident of fir forests in the mountains. Migration dates are March 31, 1910 (an unusually early date), April 20, 1911, September 26, 1909, and September 20, 1910. There appear to be two forms of kinglet in this region, differing from each other in habitat and song but not perceptibly in plumage or measurements. One form is only a migrant, arriving a week or two earlier than the other, inhabiting willow



thickets in the valleys and along the mountain streams and singing exactly like eastern birds of this species. The other is the breeding bird of the region. It inhabits the fir forests in the mountains and has a totally different song, as described in the *Auk*, xxviii, 1911, p. 48. I secured adult males of both forms but could find no difference in plumage or measurements.

*Myadestes townsendi*. Townsend Solitaire. A common summer resident in the mountains throughout most of the region, particularly in the very rocky country in parts of Jefferson and Silver Bow counties. Migration dates March 15, 1910, October 2, 1909, and October 14, 1910.

*Hylocichla fuscescens salicicola*. Willow Thrush. Common summer resident in willow thickets of the valleys and lower mountain streams. Migration dates June 5, 1910, June 5, 1911, and August 27, 1910.

*Hylocichla ustulata swainsoni*. Olive-backed Thrush. Common summer resident of the mountains. Migration dates May 16, 1910, May 14, 1911, and August 25, 1910. A large flight of thrushes of this and the next species was noted in late August on Gold Creek. On one unusually cold day during the flight I found an Olive-back, so numb with cold that I caught it in my hands.

*Hylocichla guttata auduboni*. Audubon Hermit Thrush. Common summer resident of the mountains. Noticeably much commoner than farther east in Montana. Migration dates are May 25, 1910, May 17, 1911, September 28, 1909, and September 10, 1910.

*Planesticus migratorius propinquus*. Western Robin. Common summer resident in both valleys and mountains. Also a rare winter resident. Migration dates are March 16, 1910, October 23, 1909, and October 13, 1910.

*Sialia currucoides*. Mountain Bluebird. Common summer resident. Migration dates, March 10, 1910, and October 7, 1909.

## BIRDS OF A MOHAVE DESERT OASIS

By CHESTER LAMB

THE locality of which I am about to write, is known as the Daggett region, formerly famous on account of its Borax mines. It is situated in the Mohave River Valley about forty miles northward from the south-central edge of the Mohave Desert, and one hundred and sixty miles northeast of Los Angeles. The valley here is about ten miles wide; on the north are the Calico Mountains, and on the south the Ord Mountains. These are low ranges entirely bare of vegetation except the ever present creosote bush. The floor of the valley is about two thousand feet above sea level.

In about the center of the valley flows the Mohave River, that is, it flows about three months of the year, from February to May, and the rest of the year it is a burning streak of sand except in a few places where the water comes to the surface and where cottonwoods, willows and mesquites grow, forming veritable oases.

It is at one of these oases that, with a few exceptions, all my observations were made. In fact, of the one hundred and thirty-three species and subspecies noted, only forty-three were seen at all at other points.

The oasis in which my observations were made is nine miles east of the town of



Daggett, San Bernardino County, California. Here the water comes to the surface making two ponds about a half a mile apart, connected by a little stream of flowing water. One of the ponds is about one hundred yards long by fifteen wide, the other about half as large. In some places the water is twelve feet deep. On one side of the pond thick brush, mesquites and cottonwoods come right down to the water's edge, and on the other side it is open and sandy making it especially favorable for shore birds. For probably a half a mile surrounding the water-holes mesquite trees and bushes grow profusely, with a scant mingling of cottonwoods.

Outside of this tree area is the desert, mostly sandy, and in the majority of places covered with small pieces of broken lava. The only vegetation is the greasewood bushes and other low desert shrubs. No cactus or tree yuccas grow in this vicinity.

With the exception of a little water above Daggett and twelve miles below the oasis, there is none for miles around, so this place becomes indeed a place of rest for the migrants, and an ideal home for the residents.

The climate here is mostly very warm during June, July, August and September, generally 100 degrees or more every day. In the winter time the thermometer sometimes goes as low as twenty-five degrees above zero in the early mornings. There is practically no rainfall. I only saw rain twice that would wet one were he out in it, and that only lasted for two hours.

During the twelve months from August 1, 1910, to August 1, 1911, the writer was located at a mine three miles from the water hole, and eleven hundred and fifty feet up the mountain side from the floor of the valley. The little railroad town of Yermo three miles away produced a couple of birds seen nowhere else. Around the railroad shops is a small oily pond, formed from the waste from the shops, and this sometimes attracted a few birds, often to their sorrow, on account of the crude oil all about.

I desire here to extend to Mr. H. S. Swarth and Mr. J. Grinnell my sincere thanks for their trouble in identifying many of the birds.

For the sake of identification specimens of all birds mentioned in this article were secured, with the following exceptions: Forster Tern, Black Tern, Canada Goose, Wood Ibis, Sandhill Crane, Wilson Phalarope, Turkey Vulture, Marsh Hawk, Prairie Falcon, White-throated Swift, Rufous Hummingbird, Western Chipping Sparrow, San Diego Towhee, Cliff Swallow, Barn Swallow, and California Yellow Warbler. Below is the list of the birds seen.

*Colymbus nigricollis californicus*. Eared Grebe. Two were recorded, one seen August 28 and one secured September 27.

*Podilymbus podiceps*. Pied-billed Grebe. These are resident in small numbers the year round and could be seen on nearly every trip to the water hole. Some small young were seen July 30.

*Gavia immer*. Common Loon. One seen April 10, and one secured April 16. This one was in an extremely emaciated condition.

*Larus philadelphia*. Bonaparte Gull. But a single bird was seen, secured November 8.

*Sterna forsteri*. Forster Tern. A single one was seen fishing at the water hole August 13.

*Hydrochelidon nigra surinamensis*. Black Tern. A single bird was seen hovering over a small oily pond near the railroad shops June 28.

*Phalacrocorax auritus albociliatus*. Farallon Cormorant. Two were seen during the year of these observations, one August 12, and another seen and secured November 8.

*Pelecanus erythrorhynchos*. White Pelican. One killed by a local hunter October 1.

*Mergus serrator*. Red-breasted Merganser. Mergansers were seen several times in company with ducks the first few days of November. Two females taken November 14 proved to be of this species.

*Anas platyrhynchos*. Mallard. None were seen till November 27, when one lonely female was secured; small flocks were seen during the next thirty days.

*Mareca americana*. Baldpate. Quite common at times from August to March. On October 23 I secured a young male just about changing into adult plumage, and it is interesting in that it has a white ring nearly around the lower neck.

*Nettion carolinense*. Green-winged Teal. Quite common at all times during the winter, and a few occasionally dropped in during the summer. Many were secured, they seemingly being the least wild of any of the ducks.

*Querquedula cyanoptera*. Cinnamon Teal. These birds did not make their appearance till March 15, but after that many large flocks dropped in, and for the next two months there were always a few on the ponds. One single bird was seen July 30.

*Spatula clypeata*. Shoveller. First seen November 4; then common till January 14, after which they all disappeared. None were seen again till April when two or three small flocks dropped in.

*Dafila acuta*. Pintail. They, with the Baldpates, were the most abundant duck visiting here. Were common at all times from August to March 15. A few remained throughout the year.

*Marila americana*. Redhead. None of these birds were noted till February 21, when three males were seen. A pair was secured March 14.

*Marila affinis*. Lesser Scaup Duck. Like the Redhead this duck's visits were rare. A pair seen November 4, a large flock March 15 and 20, and a single bird April 5.

*Marila collaris*. Ring-necked Duck. One was secured March 10. Possibly half a dozen were seen, all during the interval between March 1 and 10.

*Clangula clangula americana*. Golden-eye. A single pair seen November 17. While observing this pair I was lying not fifteen yards from them, concealed in the grass on the bank. I watched them for some time and was much interested in their diving for food. At this place the water was about four feet deep. They would dive and stay under water possibly forty-five seconds, and when coming up I could hear them breath so plainly, it sounded to me as loud as a full grown man after a hard run. The birds remained on the surface, apparently to recover their breath, about half again as long as they stayed under water.

*Charitonetta albeola*. Buffle-head. Only five individuals were noted, three secured November 9 and two seen December 29. All these were females.

*Branta canadensis* subsp.? Canada Goose. A pair that I took to be of this species were seen feeding at the margin of the pond. I emerged from the brush not twenty-five yards from them before they flew. Other flocks of geese were heard passing at night.

*Plegadis guarauna*. White-faced Glossy Ibis. Seen on three occasions; on August 5 a flock of fourteen hung around the water hole all day, September 10 one was seen and again two on September 24.

*Mycteria americana*. Wood Ibis. One seen June 18. Being familiar with this bird in Mexico there was no mistaking it as it flew low over me.

*Botaurus lentiginosus*. Bittern. Two were seen, one on January 27 and the other April 5.

*Ixobrychus exilis*. Least Bittern. One caught August 7 in the oily pond near the railroad shops, its wings covered with crude oil.

*Ardea herodias herodias*. Great Blue Heron. One could be seen on nearly every trip to the water hole throughout the year.

*Herodias egretta*. Egret. A flock of three stopped for a few minutes May 2 at the small oily pond near the railroad shops. One, shot by an engineer and given to me, is now in the collection of Mr. A. B. Howell of Pasadena.

*Butorides virescens anthonyi*. Anthony Green Heron. A few seen at the water hole during August and September and not again till April 5.

*Nycticorax nycticorax naevius*. Black-crowned Night Heron. Several were seen during August and September, after which they left to re-appear April 5. Even in the town three or four would occasionally roost in the very small cottonwood trees, a few feet from dwellings.

*Grus mexicana*. Sandhill Crane. Four were seen in a small grain field February 28. They only stayed one day. A flock of twelve flew overhead March 17 and three April 5. I spent nearly an hour stalking these four birds and was within a few feet of shot gun range when they flew away alarmed by a horse with a bell on its neck running out of the brush. From their large size I took them to be *Grus mexicana*, rather than the smaller *G. canadensis*.

*Porzana carolina*. Sora. Resident; seen occasionally through the year.

*Fulica americana*. Coot. Seven or eight always in evidence at the water hole, while at times as many as fifty were present. Breeds.

*Lobipes lobatus*. Northern Phalarope. Seen only between August 20 and September 10 when they were plentiful. Three secured August 28.

*Steganopus tricolor*. Wilson Phalarope. A lone individual seen swimming at the margin of the pond, June 10.

*Recurvirostra americana*. Avocet. Four stayed at the pond during the interval between August 20 and 28.

*Himantopus mexicanus*. Black-necked Stilt. About a dozen stayed along with the Avocets. A lone bird was seen April 10.

*Gallinago delicata*. Wilson Snipe. First seen October 22, and then commonly up to, and through, April.

*Macrorhamphus griseus scolopaceus*. Long-billed Dowitcher. One seen and secured February 24.

*Pisobia minutilla*. Least Sandpiper. Several observed in August; none seen again till February 28, when they became fairly numerous.

*Totanus melanoleucus*. Greater Yellow-legs. Nine birds were seen, one each on October 19, February 21 and February 23, a pair March 20, three on April 5 and one on April 21.

*Actitis macularius*. Spotted Sandpiper. Seen August 5 and October 11. After April 16 a dozen or more could be seen about the water hole every day.

*Oxyechus vociferus*. Killdeer. Abundant resident, and I might say a great nuisance when hunting other birds.

*Lophortyx gambeli*. Gambel Quail. Abundant resident. Very hard to secure, as their favorite haunts are the thick mesquites.

*Zenaidura macroura carolinensis*. Mourning Dove. Abundant everywhere during August and September. After September they left and were not seen again till December 9, when a pair would be seen rarely around the water hole. After May 1 they became abundant again.

*Cathartes aura septentrionalis*. Turkey Vulture. Occasionally seen circling around up to October 1. After that none were seen again till March 20.

*Circus hudsonius*. Marsh Hawk. One seen September 12 and another December 13.

*Accipiter velox*. Sharp-shinned Hawk. Quite common from October to February. None were noted before or after those dates, with the exception of one taken February 28.

*Accipiter cooperi*. Cooper Hawk. Seen occasionally throughout the year. I was unable to locate any nests.

*Buteo borealis calurus*. Western Red-tail. Seen frequently around the water hole, and in secluded mountain canyons, where they usually nest on inaccessible cliffs.

*Falco mexicanus*. Prairie Falcon. Two were seen flying low over Daggett February 20, and one chasing a dove at the water hole September 24.

*Falco sparverius phalæna*. Desert Sparrow Hawk. Very rare, not more than four seen, and those in the fall up to December 29. All were seen in mesquite trees.

*Aluco pratincola*. Barn Owl. One secured in the mesquites October 1.

*Asio wilsonianus*. Long-eared Owl. Only three seen, between October 26 and November 16. I secured one November 15.

*Bubo virginianus pallescens*. Western Horned Owl. Not uncommon among the cottonwoods throughout the year, and often heard in the mountain canyons at night. An adult female that I collected December 21 had an entire coot in her stomach. This bird and a young male, very much lighter in color, secured January 20, were both identified by Mr. Grinnell as *B. v. pallescens*.

*Geococcyx californianus*. Roadrunner. Not common; a few seen among the mesquites and around mountain canyons.

*Coccyzus americanus occidentalis*. California Cuckoo. One collected August 6 and one seen June 7.

*Ceryle alcyon*. Belted Kingfisher. Two were seen September 12 and one each on April 2, 5 and 10, respectively.

*Sphyrapicus varius nuchalis*. Red-naped Sapsucker. Two were seen and secured October 22 and November 28. Both were identified by Mr. Swarth.

*Asyndesmus lewisi*. Lewis Woodpecker. About six birds visited here between October 9 and 16. They were feeding in company with Red-shafted Flickers on the dried-up wild grapes. Two were secured.

*Colaptes cafer collaris*. Red-shafted Flicker. None were seen till September 12, but after that date they became abundant everywhere, where there were any trees. By the first of May they had all left.

*Phalaenoptilus nuttalli nuttalli*. Poorwill. Very rare. One flushed from under my horses' feet in a dusty road toward evening October 21. Not seen again till March 12, after which they were occasionally noted. Only once did I see one on the floor of the valley; otherwise about one thousand feet up the hillside. One I secured March 14 has been identified by Mr. Grinnell as of this species.

*Chordeiles acutipennis texensis*. Texas Nighthawk. Very abundant during August. By the 10th of September they had all left, not to return till April 2, when a few made their appearance. A week later they were abundant, and hundreds could be seen flying around over the water hole. Some days they would commence to fly at 4 p. m. and other days, apparently no different, they would not appear till as late as 6:30. All I collected had the same beetle-like insect in their stomachs, and in enormous quantities.

*Aeronautes melanoleucus*. White-throated Swift. Four seen March 28 at an elevation of about four thousand feet. After that date they were not uncommon in

the mountains, but I only saw them once around the water hole, June 18, when about a dozen were observed.

**Archilochus alexandri.** Black-chinned Hummingbird. Not uncommon in August. After that none were seen till March 20, when they began to grow numerous again.

**Selasphorus rufus.** Rufous Hummingbird. A lone male lit on the clothes line at the mine April 10.

**Tyrannus verticalis.** Arkansas Kingbird. Very abundant everywhere during August and September, after which they left to reappear April 2. A pair had a nest on the cross pieces of a telegraph pole not thirty feet from the station, and where ten trains passed every day.

**Myiarchus cinerascens cinerascens.** Ash-throated Flycatcher. Two seen May 21 and a few during the following week, but none thereafter.

**Sayornis sayus.** Say Phoebe. Common resident everywhere. The favorite nesting site was in deserted mine and prospect holes in the mountains.

**Sayornis nigricans.** Black Phoebe. One or two could be seen on every trip to the water hole, and occasionally around houses in Yermo.

**Empidonax traillii traillii.** Traill Flycatcher. Rare. One taken August 17, and no more observed till April 16. After May 15 a few more were noted.

**Otocoris alpestris pallida.** Sonora Horned Lark. Never seen around the water hole or mesquites, but very abundant around town, the stock yards, open roads and so called dry lakes throughout the year. A specimen secured November 20 was identified by Mr. Swarth as belonging to a pale-colored desert race included under *O. a. pallida* in the A. O. U. Check-List.

**Corvus corax sinuatus.** Raven. Common at all times everywhere, nesting on cliffs in the mountains. They are exceedingly wild, and it was only through cautious hunting with a rifle that I was able to secure any.

**Molothrus ater artemisiae.** Nevada Cowbird. Several small flocks were seen both at the water hole and in town, but only during the interval between June 1 and 7. One secured June 7 has been identified by Mr. Swarth as *M. a. artemisiae*.

**Molothrus ater obscurus.** Dwarf Cowbird. These were in company with the foregoing in about equal numbers. One taken June 7 has been identified by Mr. Swarth as belonging to this form.

**Xanthocephalus xanthocephalus.** Yellow-headed Blackbird. Two were seen August 6 and then no more till April 12, when a small flock hung around the stock corrals for about a week. A lone individual was observed at the water hole July 19.

**Agelaius phoeniceus neutralis.** San Diego Redwing. Four were seen October 8, and after that date none till April 13, when a few pairs, not more than six, took up their residence in the tules. These birds were extremely wild and hard to approach. Two were secured, one October 8 and one June 18. The former was an immature male of undetermined character, while the last has been identified by Mr. Swarth as *A. p. neutralis*.

**Sturnella neglecta.** Western Meadowlark. Abundant at all times in the river bottom and about the stock yards.

**Icterus bullocki.** Bullock Oriole. Quite common during August, but leaving the first week of September. They returned to their summer home April 2.

**Euphagus cyanocephalus.** Brewer Blackbird. After September they became common around the stock yards in Yermo, though none were seen elsewhere. By May 1 they had all left for their summer homes.

**Carpodacus cassinii.** Cassin Purple Finch. A pair heard singing early in the



morning of November 8, and after some little difficulty, discovered in the top of a mesquite tree. The one I secured has been identified by Mr. Swarth.

*Carpodacus mexicanus frontalis*. House Finch. Not common, though more so in the summer. Seen mostly around towns. Breeds.

*Astragalinus tristis salicamans*. Willow Goldfinch. These and the following seen on most trips to the water hole, in small flocks of from six to a dozen birds. One taken January 7.

*Astragalinus psaltria hesperophilus*. Green-backed Goldfinch. These seemed less abundant than the foregoing. One taken December 15.

*Passer domesticus*. English Sparrow. Very common around the towns of Yermo, Daggett and Barstow.

*Passerculus sandwichensis alaudinus*. Western Savannah Sparrow. First observed November 4 in the river bottom. After that date an occasional small band would be seen up to April 10.

*Chondestes grammacus strigatus*. Western Lark Sparrow. Five were seen at Barstow August 5, and a lone bird was seen and secured near the water hole July 19.

*Zonotrichia leucophrys gambeli*. Intermediate Sparrow. These birds first appeared here September 15; and a week later they were abundant everywhere, except in the mountains where none were seen. They became scarce by April 10, and by the 23rd they were all gone.

*Zonotrichia coronata*. Golden-crowned Sparrow. Only one seen, secured near my house on the mountain side October 14.

*Spizella passerina arizonae*. Western Chipping Sparrow. A flock of these birds frequented my door steps, first appearing September 27 and staying till October 3.

*Junco hyemalis hyemalis*. Slate-colored Junco. Were present in small numbers usually in company with the Sierra Junco. A small flock made its home around the mine barn, from September 10, on which date they were first seen, to February 15, after which they disappeared from there as well as from around the river bottom. Two secured January 25 and September 22 have been identified by Mr. Swarth as belonging to this race.

*Junco hyemalis thurberi*. Sierra Junco. From September 10 to January 1 they were very abundant. A few seen during January, and a lone bird on May 2.

*Amphispiza nevadensis nevadensis*. Sage Sparrow. Not infrequently met with on the open desert, being most numerous during November and December. One secured November 16 has been identified by Mr. Swarth.

*Melospiza melodia montana*. Mountain Song Sparrow. Very abundant around the river bed from October 1 to April 1. The last bird that I secured was on April 16, when all song sparrows were quite scarce. I cannot say upon what date they arrived as I took no song sparrows in August and September. Single birds secured on October 19, November 28, December 15, January 3, February 15 and April 16, respectively, have been identified by Mr. Swarth as *M. m. montana*.

*Melospiza melodia cooperi*. San Diego Song Sparrow. Of the series of twenty-five song sparrows secured from October 1 to April 16, only four proved to be of this form; during May, June and July they seemed to be the only song sparrow present, though not at all numerous. Birds secured, one each on January 3, 4 and 27 and July 10, have been identified by Mr. Swarth as *M. m. cooperi*.

*Melospiza lincolni lincolni*. Lincoln Sparrow. Not more than eight birds were seen altogether, four being taken, one each December 21 and 23, February 15 and April 13.

*Passerella iliaca megarhyncha*. Thick-billed Fox Sparrow. One taken in the town of Yermo. May 28. Identified by Mr. Swarth.



*Passerella iliaca schistacea*. Slate-colored Fox Sparrow. One flew in the well house at the mine September 22. Identified by Mr. Swarth.

*Pipilo maculatus megalonyx*. Spurred Towhee. A pair were seen at the water hole September 24. I was unable to secure them but they were probably of this subspecies.

*Zamelodia melanocephala*. Black-headed Grosbeak. A few birds seen during August. They made their spring appearance April 13.

*Guiraca caerulea lazula*. Western Blue Grosbeak. These birds stayed longer and appeared later than the Black-headed. By October 1 they had all gone, not to re-appear till May 21.

*Passerina amoena*. Lazuli Bunting. Very rare. Probably a dozen birds seen in August. In the spring they did not arrive until May 14.

*Progne subis hesperia*. Western Martin. A pair was seen perched on the top of a dead cottonwood tree August 28, and one was secured.

*Petrochelidon lunifrons lunifrons*. Cliff Swallow. Abundant in September, less so in October, after which they all left. They re-appeared again about the first week of May.

*Hirundo erythrogastra*. Barn Swallow. Many seen flying around the water hole in company with Tree Swallows during August and up to September 15.

*Iridoprocne bicolor*. Tree Swallow. Very abundant during August and September. The first birds arrived in the spring February 17, then gradually became numerous again.

*Stelgidopteryx serripennis*. Rough-winged Swallow. Many seen around the water hole after June 1; several that I secured were juveniles.

*Bombicilla garrula*. Bohemian Waxwing. One seen and secured December 13, as recorded in the CONDOR, XIII, 1911, page 34.

*Phainopepla nitens*. Phainopepla. Not common. Seen throughout the year, though none were observed in their usual haunts from September to November 18.

*Lanius ludovicianus excubitorides*. White-rumped Shrike. Very rare, an occasional one seen throughout the year either at the water hole, on the open desert or the mountain side. One secured August 14, compared with *L. l. gambeli*, is noticeably paler colored.

*Vireosylva gilva swainsoni*. Western Warbling Vireo. One seen and secured, September 15.

*Dendroica aestiva brewsteri*. California Yellow Warbler. Seen twice, August 14 and May 2.

*Dendroica auduboni auduboni*. Audubon Warbler. Abundant in the timber from September 10 to April 20.

*Geothlypis trichas occidentalis*. Western Yellow-throat. Yellow-throats were quite rare residents. One taken January 17 has been identified by Mr. Swarth as of this form.

*Icteria virens longicauda*. Long-tailed Chat. One seen May 3 and one secured May 21. Not uncommon in June and July.

*Wilsonia pusilla pileolata*. Pileolated Warbler. Only seen on two occasions, two on April 16 and several on May 3. One secured April 16 has been identified by Mr. Grinnell as *W. p. pileolata*.

*Anthus rubescens*. Pipit. First seen at the river bottom November 3. After that date they became very abundant up to April 15, after which none were noticed.

*Mimus polyglottos leucopterus*. Western Mockingbird. Two individuals seen during August and then none again till December 20. After that date they became plentiful around the water hole and frequently one would visit the mine.

*Toxostoma lecontei lecontei*. Leconte Thrasher. Very rare, only six birds being seen throughout the year. With the exception of one all were on the open desert among the greasewood. A pair were secured February 28.

*Salpinctes obsoletus obsoletus*. Rock Wren. Common on the hillsides and mountains, and sometimes met with on the open desert.

*Catherpes mexicanus conspersus*. Canyon Wren. Rare; only a few seen on the rocky mountain side during the winter. One taken October 16 has been identified by Mr. Swarth.

*Troglodytes aedon parkmani*. Western House Wren. One seen and secured September 16.

*Telmatodytes palustris paludicola*. Tule Wren. Very common among the weeds by the water hole throughout the year. One taken October 18 has been identified by Mr. Swarth as belonging to this subspecies.

*Telmatodytes palustris plesius*. Western Marsh Wren. Several seen, but not nearly as common as the foregoing and not observed till December 25. One secured on that date has been identified by Mr. Swarth as *T. p. plesius*.

*Certhia familiaris zelotes*. Sierra Creeper. But one seen, secured December 7. Identified by Mr. Swarth.

*Auriparus flaviceps flaviceps*. Verdin. Very common in the mesquites throughout the year. I found complete sets of eggs by March 20. These birds use their nests the year round to roost in at night, and I have frequently captured the birds in them in the day time.

*Regulus calendula calendula*. Ruby-crowned Kinglet. First seen October 22, and a week later were common among the mesquites and cottonwoods. By April 10 they had all left.

*Poliophtila caerulea obscura*. Western Gnatcatcher. Common everywhere at all times.

*Poliophtila plumbea*. Plumbeous Gnatcatcher. Rare. Only four birds were seen, all in October. These kept close to the mesquite trees and did not go out upon the open desert as did *P. c. obscura*.

*Myadestes townsendi*. Townsend Solitaire. One seen and secured January 3.

*Hylocichla guttata nanus*. Dwarf Hermit Thrush. But two were seen November 15 and January 7. One secured November 15 has been identified by Mr. Swarth.

*Planesticus migratorius propinquus*. Western Robin. A single bird was secured October 13, but it was not till November 8 that I saw any more. After that date they were very abundant at the water hole, feeding on mistletoe berries, as do so many of the birds here. By the first of May they had all left for their summer home.

*Ixoreus naevius meruloides*. Northern Varied Thrush. One seen and secured November 28. Identified by Mr. Swarth.

*Sialia mexicana occidentalis*. Western Bluebird. First seen November 14, after which date they became abundant. None were seen after March.

*Sialia currucoides*. Mountain Bluebird. Only four were seen, one December 29, two February 20 and one March 5.

## FROM FIELD AND STUDY

**Bobolink Again in Idaho.**—Referring again to *Dolichonyx oryzivorus* in Idaho (see CONDOR, 1911, for previous note): On "August last," less than a quarter of a mile from where the bird was noted in 1909, I found a flock of about twenty-five, in the autumn plumage of course, nevertheless unmistakably Bobolinks. One taken proved to be an adult male. This is my second record for the species in Idaho. Apparently it has now gained a firm foothold in this valley. All conditions seem to favor a rapid increase in numbers.—L. E. WYMAN.

**Rare Takes for San Mateo County, California.**—For the past few years I have been steadily adding to my list of county birds, and at this time think it of sufficient importance to record some of the rarer ones, and also one taken in another part of the State.

Ancient Murrelet (*Synthliboramphus antiquus*). One immature female in juvenal plumage taken off San Bruno in San Francisco Bay on December 23, 1907.

Pacific Fulmar (*Fulmarus glacialis glupischa*). Female taken in the bay near Redwood City, February 4, 1906; others seen at different times.

Ashy Petrel (*Oceanodroma homochroa*). Female taken November 9, 1909, on the bay near Redwood City. Another reported on November 16, 1911, near Redwood City.

Ring-necked Duck (*Aythya collaris*). Numbers of these ducks are taken almost every fall on the bay, and several are in my collection; also a fine male in breeding plumage taken from a flock of a dozen on a small lake near Menlo Park, February 16, 1910.

Barrow Golden-eye (*Clangula islandica*). After examining hundreds of specimens of golden-eyes for many years past, I at last succeeded in securing a young male, in immature plumage on November 19, 1908, and a female on November 28, 1910; all others were of the common, or American Golden-eye, which are quite plentiful during the fall migration on the Redwood City salt marshes.

Old-squaw (*Harelda hyemalis*). Two specimens, female, on December 17, 1909, and male on January 25, 1910, on the bay near Redwood City. Others have been seen the past two winters.

American Scoter (*Oidemia americana*). A single female taken on the bay near Redwood City Creek on January 17, 1909; probably the only record for inland waters in California.

Prairie Falcon (*Falco mexicanus*). One taken on February 14, 1902, and another on October 15, 1907. These are the only specimens I have ever noticed in the county.

Brewer Sparrow (*Spizella breweri*). Two specimens collected in city limits, one taken on December 7, 1893, the other on February 17, 1897. The sex of both is in doubt owing to shot holes. No others of this species have been seen.

California Least Vireo (*Vireo belli pusillus*). Only one record for the county, a male taken on April 5, 1905, in city limits.

Emperor Goose (*Philacte canagica*). One specimen, a female, taken at Rio Vista, California, November 3, 1910. This is as far as I know the fourth record from the State. The bird was with a large flock of American White-fronted Geese and was in very poor flesh. Mr. Charles H. Smith of the above city kindly presented the specimen to the writer, saying that he had never killed or even heard of such a bird being seen in that locality before, where thousands of geese are taken yearly.—CHASE LITTLEJOHN.

**Wood Ibis near Long Beach.**—On July 2, 1911, I collected a specimen of *Mycteria americana* at Dominguez Station, near Long Beach, California. The bird was feeding in a mud slough in a very amusing manner. It was standing almost knee deep in the muddy water, and would insert its bill almost up to the eyes and then, standing on one foot, would seem to be stirring up the water with the other foot. The farmers in the vicinity of the place where this specimen was taken said that from one to half a dozen had visited this slough almost every day for a month. Other members of the Cooper Club report having seen Wood Ibises, about the time of the taking of my specimen, among various sloughs along the coast of Los Angeles County.—J. E. LAW.

**Another Eastern Fox Sparrow in Southern California.**—On November 11, 1911, while collecting in the Los Angeles River bottom near Burbank, Los Angeles County, I saw and shot a female Fox Sparrow (*Passerella iliaca iliaca*) which is indistinguishable from birds in my collection that were taken in the eastern states. This is the seventh specimen of the species recorded from the State, and the second from the above locality.—ALFRED B. HOWELL.

**The American Merganser at Lake Tahoe.**—One of the prettiest sights in my experience came very unexpectedly while I was standing on a board walk in front of a little cabin at the edge

of Lake Tahoe about 5 P. M. on June 24, 1911. This was in a little cove occupied by fishermen at the source of the Truckee River between Tahoe Tavern and Tahoe City. At this particular spot the walk stood out over the water and on either side the willow marsh extended out to a like distance.

Suddenly we heard a coarse masculine "quack" almost under our feet and a beautiful adult American Merganser, with glossy auburn head and crest, glided out, followed by eighteen or twenty babies not over a week old. The water was as smooth as glass, and this pretty procession paid no attention to us as it passed the length of the short walk within five feet of where we stood. The little ones kept close in the wake of the mother, moving quickly here and there, never quiet a minute, and changing positions so rapidly that it was impossible to accurately count them. The mother's commanding "quack" seemed to keep the little ones in perfect obedience and they behaved like a company of little soldiers. They were a pretty golden brown, each with a conspicuous white spot on each wing. Evidently they were after their supper and all working hard. They passed quickly on, then tacked back a little farther out, then gradually worked across the cove and into the willows a few hundred yards along the shore.

Several times the mother raised almost out of the water and dashed quickly along for fifty feet or so, every chick rising and skipping after her, flapping their little wings and paddling the surface of the water with their little feet. After three of these spurts the youngsters seemed to tire, and one climbed on its mother's back; and soon several had done so, and rode securely there as long as they were in sight. Fortunately we had a good pair of Zeiss glasses and were able to watch every movement till they disappeared into the willows.

The fisherwives said this little family had been about the cove for two or three days and there were twenty chicks, but I could only be sure that there were eighteen. Did anyone ever see a more beautiful picture than this, with beautiful Lake Tahoe and its snow-topped mountains beyond as a background, and the stately pine forests all about down to the very water's edge?

The fisherwives said the hens stole the youngsters from each other, and sometimes had more than at others, but these were undoubtedly different families with varying numbers.

On the 28th we skirted the west shore, north some six miles, in search of other mergansers. Several adults were seen, twice in pairs, and on the lake side of "The Island" a female with six chicks, slightly larger than the "18" family, was observed and chased in a launch in an effort to get pictures. Time and again all rose on the surface and dashed along for a short spurt, fifty feet or so. The female would not leave them, nor did any show any tendency to dive.—J. E. LAW.

**Concerning Nesting Sites of the California Jay.**—In recent conversation with two experienced oologists, the nesting sites of *Aphelocoma c. californica* were discussed, and statements were made that observations upon their nest building habits were difficult in that birds of this common species were seldom seen carrying nesting material. An experience of the writer's, covering both subjects, was related, and the discussion that followed led to this paper as perhaps being worth while.

An abundant resident of Marin County, California, our nesting notes upon this species established the following sites for the eighty-three nests observed: oaks 69; bay 3; wild coffee 4; elder 2; madrona 1; gooseberry 1; toxon 1; poison oak 2. And yet in Belvedere, Marin County, where live-oaks are most plentiful, a nest has been built almost yearly, for seven or eight years, in a clematis which climbs up the side of our summer home. The nest has usually been placed within reach of, as well as observation from, the window of a constantly occupied bed room, a window opening out and frequently opened and closed daily.

A lucky observation on May 26, 1909, caught one of the nest builders with an oak twig held crosswise in its bill, and about to dart to the nest from the limb of a live-oak a few feet distant from, but slightly higher than, the nesting site in the clematis. The sudden appearance in the window of the observer caused the bird to resume its perching position, but more through curiosity than alarm, judging from the many "jay bobbings" then indulged in. After numerous interchanges of such morning salutations between the observed and the observer, the former deliberately put down its head and, bringing the twig in proper contact with the perch, placed one foot over the twig and thus securely held it in its perching grasp. The renewed bobbings were then accompanied by the bird's familiar and prolonged scolding note or squawk, in its rising crescendo.

This play was repeated a number of times, the observer retiring from the open window and reappearing at the critical moment of contemplated flight to the nest, already well along in construction.

To the foregoing notes upon nesting sites in Marin County, may be added the following which came under our observation in San Benito County, California: oaks 4; elder 1; willow 7; honeysuckle 2; sage 2; chaparral 1; greasewood (black willow) 1.—JOHN W. MAILLIARD.

# THE CONDOR

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## EDITORIAL NOTES AND NEWS

In this issue is printed the new Constitution of the Cooper Ornithological Club. This is in the form finally adopted by the Southern Division, Sept. 28, 1911, and by the Northern Division, November 18, 1911.

It is admittedly regrettable that this number of our magazine is so far behind its normal date of publication. But the present editors have always acted on the principle that care in make-up is far more essential than fixed date of appearance. An unfortunate accident in the printing office has made the hazard in this particular case one requiring unusual precautions.

On November 6, 1911, the appointment of Mr. F. S. Daggett as Director of the Museum of History, Science and Art, at Los Angeles, was confirmed by the Board of Governors. The building is finished, and Mr. Daggett is now pushing as rapidly as possible the preparation and installation of the material for exhibition. Comprehensive plans have been made regarding the development of all three branches of the Museum, but readers of *THE CONDOR* will be more particularly interested in the details of the zoological department.

The large collection of fossils amassed by the Southern California Academy of Science at the Rancho La Brea is all to be in the building, and restorations of most of the mammals and many of the birds will be made, forming an exhibition probably unique. The material includes more or less complete skeletons of elephant, mastodon,

giant ground sloth, bison, llama, camel, saber-toothed tiger, lion, wolf, condor, eagle, etc. The activities of the museum will be first directed largely along exhibitional lines, always with the view of having the exhibits as educational as possible. In building up a zoological collection it will be confined principally to west coast forms, in fact mostly to Southern California and the contiguous country to the south. Habitat groups of native mammals and birds will be installed as rapidly as the material can be collected and prepared.

Mr. Daggett's personal collections will be deposited in the Museum, amounting to 8000 birds, 3000 species of Coleoptera, and thirty-six large drawers of butterflies, as well as his ornithological library, comprising some 1800 volumes and about as many pamphlets. Other loan collections, and some gifts are promised, including a library of about 2000 volumes owned by the Academy of Sciences, and an extensive herbarium to be installed by Dr. A. Davidson.

The Museum's Board of Governors includes one member from the Southern Division of the Cooper Club, Mr. Howard Robertson. The Club should know that the successful inauguration of this Museum is in a great measure due to his energy and industry, and must accord Mr. Robertson credit for all time as one of the guiding spirits who made possible the founding of the institution. With two Cooper Club members so actively interested in the Museum, Mr. Daggett as its executive head, and Mr. Robertson as Secretary of the Board of Governors, we can feel assured as to its future development and expansion. The Club has also cause for congratulation in the fact that this new institution, bound to develop into one of great importance and usefulness, is in a measure a direct outgrowth of the activities of the Cooper Club.

## PUBLICATIONS REVIEWED

MILLER ON FOSSIL BIRDS.—California is the richest state in the union in point of living species represented within its borders, barring possibly Texas. It now seems that an added distinction is accruing, namely, that in number of fossil forms brought to light, this state has assumed foremost position. The Department of Paleontology of the University of California has come into possession of a large amount of material from the now famous Rancho la Brea asphalt deposits near Los Angeles; and previously extensive and fruitful searches had been conducted in certain cave deposits in the northern portion of the state. Upon the avian remains contained in the material from these two sources Loe Holmes Miller has prosecuted diligent research. It is our privilege to refer to two more papers from his pen announcing various new discoveries. (See *CONDOR* XIII, 1911, p. 79).



In an article entitled "A Series of Eagle Tarsi from the Pleistocene of Rancho la Brea" (Univ. Calif. Publ. Geol. vi, October 9, 1911, pp. 305-316), Miller describes and figures three new raptorial birds: *Morphnus woodwardi*; *Geranoaetus grinnelli* and *G. fragilis*. As in previous cases, the nearest related species are now restricted to South America. Comparison is drawn by the author not only with the nearest related forms, but with the Golden and Bald Eagles. It seems that of the fossil species the one bone most often preserved is the tarso-metatarsus. Miller points out that "this bone is so characteristic a part of the avian skeleton and reflects so readily the characters of the species" that in dealing with adequate material no hesitation is experienced in making specific determinations from this member alone.

The second paper bears the caption "Avifauna of the Pleistocene Cave Deposits of California" (Univ. Calif. Publ. Geol. vi, October 28, 1911, pp. 385-400). Thirty forms are listed, a few of these are not yet identified beyond the genus, the majority are apparently identical with existing species, while three are newly named in this paper. The latter are: a black vulture (*Catharista shastensis*), a condor (*Gymnogyps amplus*), and a great horned owl (*Bubo sinclairi*). Associated together in this ancient avifauna, as preserved in Potter Creek and Samwel caves, Shasta County, and Hawver Cave in Eldorado County, were, besides the species just named, a long-legged eagle, the turkey vulture, the sharp-shinned, red-tailed, Swainson and rough-legged hawks, the pigmy, elf, and short-eared owls, ruffed and sooty grouses, valley and mountain quails, a species of turkey, the crow, Steller jay and Brewer blackbird. It is of particular note that the little elf owl should have occurred in the Shasta region, when it is now restricted to a range far to the southward.

Miller finds that in these cave deposits, the remains of ground-dwelling birds predominate. This suggests "that their bodies were either brought in as the prey of predatory forms or else swept in by currents of surface drainage." Owls and vultures, of course, commonly resort to caverns as places of abode, and the bodies of those dying could have been carried into the more remote recesses by predaceous mammals or currents of water.—J. GRINNELL.

**WOODPECKERS IN RELATION TO TREES AND WOOD PRODUCTS.** By W. L. MCATEE (=U. S. Dept. Agric., Div. Biol. Surv., Bull. no. 32, 99 pages, 12 pls., 44 figs. in text; Sept. 26, 1911).

This publication of the Biological Survey, following closely after the one on the "Food of the Woodpeckers of the United States" fur-

nishes considerable evidence as to the damage to trees, lumber, etc., by members of this group of birds. The paper is divided into two parts, "damage by woodpeckers in general," and "damage by sapsuckers", the latter being by far the most comprehensive. Under the first head, the kinds of injury to trees caused by woodpeckers are treated—holes made in digging out insects, excavation of nest and shelter cavities, attacks of tree enemies aided by woodpeckers, and damage to wooden posts and structures.

This section of the paper closes with a few paragraphs on the prevention of damage by woodpeckers, attention being called to the value of experiment along this line and to the use of nesting boxes and of tin as a protective covering when practicable. The first suggestion is an important one. Not long ago the statement was made to the reviewer that the placing of a newspaper in a hole in a building drilled by a flicker was sufficient to drive the bird away. The statement has also been made that the hanging of a looking glass on a string from the gable of a building keeps flickers away. Whether these statements be true or not they show what two men have found out, to their own satisfaction, by experimentation. Experiments like these need to be tried out; for who can tell but that some simple thing may prevent some or most of the damage done by woodpeckers.

The greater part of the paper on "damage by sapsuckers," is given over to an enumeration of the trees and shrubs attacked by the different kinds of sapsuckers. The most interesting part deals with the effect of sapsucker work on the external appearance of trees, on the health of trees, and on lumber and finished wood products. From the evidence brought forward by a separate enumeration of the kinds of shrubs and trees attacked, and the type of damage done, it is evident that the sapsucker damages much valuable timber so that it is rendered unfit for use. In conclusion this statement is made: "However, if only one percent of the number of trees attacked (ten percent of the whole number) is discarded, the annual loss for the whole United States is more than a million and a quarter dollars." A large number of illustrations furnish indisputable evidence as to the effects of sapsuckers.

The paper is particularly interesting on account of the fact that it is one of the first of the publications of the Biological Survey to bring forth so large an amount of evidence against a bird. Heretofore there has been a tendency to minimize the harm as compared with the good, even with such birds as the linnet and blue jay. Mr. McAtee appears to have set forth evidence impartially.

One point not emphasized seems worthy



of strong emphasis in such a paper; namely, the fact that locality and numbers of individuals have a great deal to do with the amount of damage done. In some parts of the United States sapsuckers are of such rare occurrence that the placing of the birds on the blacklist would be foolish indeed. As the study of economic ornithology progresses it will be seen more and more clearly that whereas a bird may be a pest in certain localities due to certain local conditions, yet in other localities the same bird may be a decided benefit or at least of neutral value. There is no intention of defending sapsuckers as a class, for we agree with Mr. McAtee that the sapsucker "must be included in the class of injurious species, the destruction of which when caught redhanded is justifiable"; but "circumstances alter cases" and this view is important.

The bibliography is a welcome addition in this publication of the Biological Survey. To the average farmer this means nothing, but to the scientific student it adds greatly to the value of the paper. The incorporation of reliable data by other workers in the field adds much to this type of publication. It is a pleasure to note also the elaborate set of plates and figures. To the men for whom these publications are intended such illustrations mean much more than the printed data.—H. C. BRYANT.

A MONOGRAPH OF THE BROAD-WINGED HAWK (*Buteo platypterus*) by FRANK L. BURNS [=The Wilson Bulletin XXIII, 1911, nos. 3 and 4, pp. 143-320, 10 pls.].

The scope of this work is perhaps best indicated by a recapitulation of the different heads under which the subject is treated, which, in order of succession, are as follows: Diagnosis of genus, distinguishing specific characters, description and measurements, synonymy, geographical distribution, flight, food, voice, enemies, disposition in the presence of other birds, disposition in the presence of man, disposition in captivity, migration, station, mating, nidification, incubation, young, molt and renewal, bibliography.

The assemblage of the mass of data here presented is evidently the result of a large amount of painstaking labor. Besides being a compilation of previously published literature on the subject, the paper contains much new and unpublished material, the many manuscript records in the details regarding distribution, and the careful accounts of the molt, actions and habits of young birds raised in captivity, being particularly noticeable. The illustrations are excellent and well chosen, figuring young birds, immatures, and adults, eggs and nests.

It is, therefore, an important contribution to our knowledge of the species, and a praiseworthy effort at condensing and making accessible the widely scattered information dealing with the subject. In spite of its general excellence, however, there are a few points which the reviewer (possessing a very limited knowledge of the species dealt with) feels could have been made more clear and explicit. Thus while in the definition of its geographical distribution, the southern limit in summer is given as from Florida to central Texas (page 170), farther on, under "nidification" (page 248) there is mention of the character of nests found in Central America, leaving the reader in doubt as to whether the species occurs there in summer, or breeds in winter. Then in the treatment of the Cuban bird, a new name is offered for the subspecies, *Buteo platypterus cubanensis*, but in an exceedingly casual manner, neither a type specimen nor type locality being designated; also it is impossible to determine from the text whether or not the author believes the bird he is naming is recognizably distinct.—H. S. SWARTH.

THE RELATION OF BIRDS TO AN INSECT OUTBREAK IN NORTHERN CALIFORNIA during the spring and summer of 1911. By HAROLD C. BRYANT. (=CONDOR XIII, no. 6, Nov.-Dec., 1911, pp. 195-208, figs. 67-70).

This is the first attempt, so far as the reviewer is aware, to study the behavior of birds in the presence of abnormally large numbers of butterflies. An idea of the immense numbers of these insects (*Eugonia californica*) present during the outbreak in northern California, is given by Mr. Bryant's statement that an average of 108 per minute passed between two fir trees 20 feet high and 30 feet apart, and that 150 were counted on one square foot of ground at a drinking place. From direct observation the author learned that the Brewer blackbird, the western kingbird and meadowlark fed upon the butterflies, and examination of stomachs added the Say phoebe and the blue-fronted jay. Both sources of evidence pointed to the Brewer blackbird as the principal bird enemy of the insects, and flocks of this species were seen feeding almost exclusively upon the *Eugonia*. Thus only five species of birds out of a total of 45 species observed, and of 21 of which stomachs were examined, were found feeding upon butterflies under circumstances about as favorable for that pursuit as can be imagined. Eliminating the smaller birds which could hardly be expected to prey upon *Eugonia*, it was found that the known enemies constituted only about a fifth of the numbers of species of the remaining larger birds.

However, this seemingly very moderate attack upon butterflies, surpasses in amount of execution all previous records of the destruction of butterflies by birds in the United States combined. Whether they are too dry and dusty to be worth chasing or whether they are too active on the wing to be easily caught, or whether for some entirely different reason, the fact remains that butterflies are very little in demand with birds in the United States. Four records of birds eating butterflies are all that are afforded by the records of the examination of more than 40,000 stomachs in the Biological Survey, and one of these probably relates to the capture of a very recently emerged specimen, or to one torn from the pupa before emergence, as it was accompanied in the stomach by a pupa of the same species. This was an *Epargyreus tityrus* taken by a crow. The other records are *Eudamus* (sp.?) eaten by a yellow-billed cuckoo, and two pierid butterflies captured by kingbirds. Hence the fact that five of the species studied by Mr. Bryant utilized an unpopular kind of food, and that one of them did this to a considerable extent, gives all the more weight to the observation, as proof of the rule that birds usually take advantage of the abundant food supply created by an insect outbreak. On the whole Mr. Bryant's work is well done and his final conclusions are sound. In referring to Professor F. E. L. Beal's account of the Say phoebe, however, he misinterprets the statements there made. Professor Beal says that moths and caterpillars, not butterflies, forms ten percent of this bird's annual food. The case of the ash-throated flycatcher is similar. As the data given above shows, neither species was found by Professor Beal to take butterflies. The opinion expressed on page 200 that it "will be shown birds have an important part to play in the destruction of the butterflies", is hardly borne out by the facts presented.—W. L. MCATEE.

USEFUL BIRDS OF SOUTH AUSTRALIA—Our Feathered Friends. Protected Native Birds. [By A. G. EDQUIST] (=Journ. Dept. Agr. South Australia, xiv, no. 9, April 1911, pp. 848-855; no. 10, May 1911, pp. 936-938; no. 11, June 1911, pp. 1038-1042; no. 12, July 1911, pp. 1136-1140).

In the July-August number of THE CONDOR (xiii, no. 4, p. 142) the reviewer noticed the first of the articles above cited. Apparently the series is now finished. For a work purporting to set forth the economic value of birds, remarkably little is said about the food. On the average less than two printed lines are devoted to a characterization of the food of each species, and for nine out of a total of nineteen species this statement amounts to no more than an assertion that the bird is insectivorous. Of

course the reviewer understands that no specialized work in economic ornithology has been undertaken in Australia, but those whom the author is seeking to impress with the value of certain South Australian birds, have a right to demand more explicit information regarding food habits. Especially justifiable is this demand, since the pages of the *Emu*, and other publications on Australian birds, contain numerous specific references to the food of birds, many of which relate to one or another of the nineteen species treated by our author. It is not unreasonable to expect that these references should be collected by Australians interested in bird protection; but nevertheless, we have several publications on the "useful birds" or the "insectivorous birds" of certain States, which contain very sparing references to bird food.

A few instances from the papers now being discussed will illustrate this unfortunate tendency. The author says of the spotted bowerbird (*Chlamydodera maculata*): "Food; chiefly seeds and berries of native plants" (no. 11, p. 1038). Mr. F. B. Campbell Ford notes that in Queensland this species feeds largely on white-cedar berries (*Emu* II, pt. 2, Oct. 1, 1902, p. 101), and Mr. A. J. North says: "It is very destructive in gardens, eating nearly every kind of cultivated fruit and berries, being especially fond of chilies, and the seeds of the introduced pepper plant (*Schinus molle*). In the stomachs of the specimens I have examined, I also found portions of unripe tomatoes, grape skins and seeds, and whole raisins" (Special Catalog I, Australian Museum, vol. I, part 2, 1902, p. 44). On another page (46) it is noted that the bird is fond of figs and grapes. Mr. Robert Hall adds that it is asserted by some observers that this bird is the greatest pest the orchardist has to contend against. . . . In Queensland they favor small fruits of a bright color, such as guavas, to the detriment of the grower" (The Useful Birds of Southern Australia, 1907, p. 252).

Our author's statement therefore is shown to be not only excessively brief and generalized but also inaccurate.

Regarding the grey shrike-thrush (*Collyriocichla harmonica*) the author ungrammatically remarks "Its food is chiefly insectivorous, and often consists of caterpillars" (no. 10, p. 936). North says (l. c., p. 93) that it feeds on insects and their larvae, worms, snails, centipedes and small lizards. H. S. Dove specifies hairy caterpillars as part of its diet (*Emu* x, pt. 2, Oct. 1910, pp. 136-137), and Mr. D. Le Souef, the genial ornithologist whom many of us have had the pleasure of meeting in the United States, states that they take the eggs of other birds and that one was seen to pick up a chestnut-bellied quail killed by a hunter (*Emu*

III, pt. 3, Jan. 1904, pp. 185-186). Mr. J. B. Cleland reports the following finds from stomach examinations: Chrysomelid beetles, caterpillars of large hawk moth (*Cequesia triangularis*), banksia moth (*Danina banksiae*), looper caterpillars, beetles (*Elator* sp., *Alicula* sp.), grubs, insect eggs, and bits of grasshoppers (*Emu* ix, pt. 4, April, 1910, p. 222). Hall adds to this list, spiders, snails and lizards (I. c., p. 106).

Our author gives a somewhat longer account of the food of *Graucalus melanops*, but still falls short of an easy possibility. He says "the graucalus lives chiefly upon large insects such as mantids, phasmids and grubs. It is said to be fond of certain native berries and certain species of ants" (no. 10, p. 937). North says: "Stomachs that I have examined contained principally caterpillars, also the smaller species of Phasmidæ and other soft-bodied insects, grasshoppers and a few small seeds and berries. It is very destructive in orchards and vineyards, feeding upon all the softer kinds of fruit, such as mulberries, peaches, apricots, cherries, plums, and bananas. From its fondness for the former fruit it is known in the Upper Clarence District, as the 'Mulberry bird.' About the vineyards at Albury it is one of the first birds to attack the grapes" (I. c., p. 104). Batey also notes that it devours grapes (*Emu* VII, pt. 1, July, 1907, p. 5), another observer notes that it feeds on native figs (*Emu* v, pt. 2, Oct., 1905, p. 86), and Johncock thinks that it distributes mistletoe seeds (*Emu* v, pt. 4, April, 1906, p. 224). C. F. Cole reports it feeding on olives, caterpillars, spiders, beetles, and pickings from a cow skeleton, as well as on larvæ of case moths (*Psychidae*) and of the painted apple moth (*Teia anartoides*) (*Emu* VIII, pt. 3, Jan., 1909, pp. 154-155). Hall found two Coccinellid beetles and more than 100 ants in a single stomach of the "blue jay" (I. c., p. 92.).

These are not all of the notes that could be given on these species, since the reviewer of course has seen by no means all of the economic references in publications on Australian ornithology. Our author's accounts of other species also lack details which a little searching of the *Emu* and other standard publications would have supplied. This is especially noticeable in the case of the yellow-rumped tit (*Acanthiza chrysorrhoa*), the cuckoo (*Cuculus inornatus*), the magpie lark (*Grallina picata*), the white-fronted heron (*Notophox novae-hollandiae*), and the wood swallow (*Artamus leucorhynchus*). To be convincing, publications on the value of birds must present detailed proofs and it is regrettable that the comparatively small number available for Australian birds are not collected by the ornithologists most interested in securing their protection.—W. L. MCATHE.

## CONSTITUTION OF THE COOPER ORNITHOLOGICAL CLUB

### ARTICLE I.

#### Name and Objects

Sec. 1. This society shall be known as the COOPER ORNITHOLOGICAL CLUB.

Sec. 2. The objects of this Club shall be the study and advancement of Ornithology, with special reference to western North America.

### ARTICLE II.

#### Divisions and Chapters

Sec. 1. This Club shall consist of two coordinate bodies known as the Northern and Southern Division respectively. The Northern Division shall hold its meetings at such places as it may determine upon in the cities about San Francisco Bay, and the Southern Division shall hold its meetings at such places as it may determine upon in the cities of Los Angeles County.

Sec. 2. Local chapters outside the territory described as the home of the two Divisions may be instituted on application made by five or more members so located by residence as to render such chapter meetings a convenience. Such application shall be transmitted in writing to either Division, and the same shall be acted upon by both Divisions in the same manner as upon applications for membership as hereinafter provided for. The powers and privileges of such chapters shall be as subsequently defined.

### ARTICLE III.

#### Members

Sec. 1. There shall be three classes of members of this Club, active, life, and honorary.

Sec. 2. Any person interested in the study of birds and of not less than sixteen years of age shall be eligible to active membership.

Sec. 3. Any active member may become a life member by paying into the treasury of the Club the sum of fifty dollars and notifying the secretary of his Division that he desires to be enrolled as a life member.

Sec. 4. All applications for active or life membership shall be in writing, signed by the applicant and by the member proposing him, and shall state the name and permanent post-office address of the applicant. Such applications shall be forwarded to the Secretary of either Division, and he shall immediately upon receipt of same forward a copy to the Secretary of the other Division. Such applications shall be read at the first subsequent meeting of both

Divisions, and shall be acted upon at the second subsequent meeting of each Division. A two-thirds vote by ballot of the members present at a regular meeting of each Division shall be necessary to elect an applicant to active membership.

Sec. 5. Every application for active membership shall be accompanied by the sum of two dollars (\$2.00), as dues for the calendar year, in consideration of which the member shall be entitled to all publications of the Club for such calendar year, and to all benefits accruing to active members of the Club. This fee shall be transmitted to the Business-manager of the Club. In event of rejection said fee shall be refunded to applicant.

Sec. 6. Any person who shall, in the opinion of the Club, have rendered sufficiently valuable service in the advancement of western Ornithology, shall be eligible to honorary membership in the Club.

Sec. 7. All propositions for conferring honorary membership shall be in writing and signed by at least four active members of the Club and filed with the Secretary of either Division. Such a proposition shall be acted upon at a regular meeting of the Division in which it is introduced, when it shall be sent to the other Division for similar action. A unanimous vote at a regular meeting of each Division shall be necessary to confer the degree of honorary membership. Honorary members shall be exempt from all dues of either Division of the Club, and shall be entitled to all the rights and privileges of active members.

#### ARTICLE IV.

##### *Officers*

Sec. 1. The officers of each Division shall consist of a President, Vice-president, and Secretary. There shall also be an Editor and one or more Business-managers of THE CONDOR chosen from the active members of the Club, who shall be nominated by the officers of both Divisions acting as a committee of the whole, such nominations to be submitted for the approval of the two Divisions at the February meeting of each year, and, in order to stand, shall receive the approval by ballot of two-thirds of the members present at such meetings.

Sec. 2. In case of public meetings, or general meetings at which both Divisions shall be represented, such meeting shall be presided over by the President of the Division nearest whose home, as indicated above, such meeting shall be held, and the Secretary of the other Division shall act as recording officer. In case of inability for any reason of either of these officers to act, then their vice-officer shall be the like officer of the other Division.

Sec. 3. The Secretary of each Division shall keep a record of the meetings of the Club; shall give notice of the time and place of meetings at least one week in advance to members who request it and so signify in writing; shall notify those members-elect whose application first came to him of their enrollment as members in good standing; shall conduct the correspondence of the Division, and perform such other duties as properly devolve on this office.

Sec. 4. The Business-manager shall have control of the finances of the Club; shall receive all dues from members, subscriptions to official organ and donations, and shall receipt for same; shall expend the funds of the Club in the payment of debts authorized by the Club; shall supervise the raising of special funds, by private subscription or otherwise, and expend same as directed by the Club; and shall render a report to each Division in January of each year, and at such other times as may be required. The Business-manager may appoint one or more assistants.

Sec. 5. The Editor of THE CONDOR shall decide upon all matters usually pertaining to the conduct of a periodical, providing that nothing thereby conflicts with the purposes or exceeds the resources of the Club.

Sec. 6. Vacancies occurring in any office shall be filled until the next annual election by a majority vote of the members present at a regular meeting of the Division in which vacancy may occur, except that where vacancies occur in offices regularly requiring election by both Divisions, new officers to fill such vacancies shall be re-nominated and re-elected in the regular way at the first meeting following such vacancy.

#### ARTICLE V.

##### *Elections*

Sec. 1. The nominations for officers in each Division shall be made at the last meeting in each year.

Sec. 2. The election of officers in each Division shall occur in January in each year, and the term of office shall begin immediately after election and extend until their successors are elected and qualified.

Sec. 3. The election of all officers shall be separately and by ballot, a majority vote of the members present being necessary to election.

#### ARTICLE VI.

##### *Meetings*

Sec. 1. Stated and special meetings of the Divisions of the Club may be provided for as deemed expedient by each Division, provided that not more than two months shall elapse between any two stated meetings, unless by postponement for unusual cause.

Sec. 2. Special meetings may be called in either Division by the President thereof, provided that due notice be given by the Secretary to the members of such Division.

Sec. 3. Seven active members shall constitute a quorum for the transaction of business at any meeting of either Division.

Sec. 4. The regular meetings of the Club shall be open to the public, except when deemed inexpedient for special reasons.

#### ARTICLE VII.

##### *Resignations and Expulsions*

Sec. 1. All resignations shall be in writing, addressed to the Secretary of either Division, and may be accepted by a majority of those present at the next regular meeting, provided all dues and assessments of such resigning member shall be paid to the date of filing of resignation.

Sec. 2. Any member may be expelled from the Club on satisfactory evidence that such member is an improper person to be connected with the Club. Such expulsion must be by motion in writing, signed by two active members in good standing, and introduced at a regular meeting of either Division. Such motion shall specify the grounds alleged to render such member an improper person. Upon the introduction of such motion the Secretary shall at once notify the member of such motion and transmit a copy thereof to him. Evidence may be produced at the next regular meeting in support of the motion, and the member shall be allowed to be present and to present such evidence in rebuttal as he may have. After such evidence has been presented, the President of the Division shall submit the question to the members and a two-thirds vote by ballot of the members present shall be necessary in order to pass such motion; provided, however, that the action of a Division in the expulsion of a member shall be ratified by the other Division before such member shall be deemed to have been expelled.

#### ARTICLE VIII.

##### *Powers Defined*

Sec. 1. Each Division shall, in the manner provided by this Constitution, have the power to elect new members to the Club subject to the approval of the other Division, to elect its own officers, levy such assessments as it sees fit, frame, adopt and amend such By-Laws for its own government as may not conflict with this Constitution, and perform such other functions as may come within its province. In case of disagreement between the Northern and Southern Divisions upon any matter appertaining to the Club as a whole, such matter shall be balloted upon by each Division at a regular

meeting within two months of the time of such disagreement; such ballots shall be counted in open meeting of the Division in which cast; the Secretary of the Southern Division shall immediately forward the result in his Division to the Secretary of the Northern Division and the matter shall be decided by the majority of the total number of votes cast, for or against, by the two Divisions. In case of a tie the matter shall be brought up in the same manner at the next regular meeting of each Division, and votes canvassed as above.

Sec. 2. Each Chapter shall be amenable to the two Divisions of the Club, and shall be entitled to elect such officers as are necessary to its organization and operation. The Secretary of a Chapter shall make reports including transcript of minutes promptly following each meeting to the Secretary of both Divisions. A Chapter may levy assessments upon its own members, but shall not incur any indebtedness in the name of the Club. Each Chapter may elect its members in the manner provided in this Constitution, such action to be acted upon by both Divisions at the first regular meeting following. Any papers read before any Chapter meeting shall be transmitted immediately thereafter to the Editor of THE CONDOR to be held by him for the Club.

Sec. 3. Whenever any public or other institution shall present a request to either Division for its co-operation or supervision in connection with the establishment and maintenance of any museum or other enterprise looking to the promotion of ornithological study and research, then such Division shall be empowered to undertake such co-operation or supervision on approval by a majority vote of the members present at any regular meeting and ratification at the next regular meeting of the other Division, and to appoint in the usual way proper committee or representative for such purposes, and such committee or representative duly appointed shall have power to act in the name of the Cooper Ornithological Club, provided that neither Division nor its representatives shall have the power to incur any indebtedness in the name of the Club, except when duly authorized by a two-thirds vote of the members present at a regular meeting of each Division.

#### ARTICLE IX.

##### *Finances*

Sec. 1. The dues of an active member shall be two dollars (\$2.00) per annum, payable to the Business-manager in January of each year.

Sec. 2. Life members shall pay the sum of fifty dollars (\$50.00) in full of all dues.

Sec. 3. All bills for current expense of either Division shall be paid by the Business-manager of the Club out of the general fund, including



expense incurred for the publication of *THE CONDOR*, special publications, and necessary expenses of the Secretary of either Division. All other bills shall be first authorized by the Division for whose benefit the said expense is incurred before they shall be paid by the Business-manager.

Sec. 4. Any active member who shall fail to pay any dues charged against him within four months after being notified of his delinquency may be subject to suspension from the Club.

#### ARTICLE X.

##### *Scientific Publications*

Sec. 1. The official organ of the Club shall be "*THE CONDOR*", a bi-monthly periodical published by the Club.

Sec. 2. The proceedings of each meeting of each Division shall be briefly reported in *THE CONDOR*, together with such other matter as the Editor may deem advisable.

Sec. 3. The Editor may, at his discretion, appoint one or more associates to serve through the current year.

Sec. 4. All publications of the Club shall be mailed to all active members in good standing, and to all honorary members.

Sec. 5. The Club shall have the power to publish such reports, proceedings, memoirs, or other works on Ornithology as may be authorized at any regular or special meeting of either Division, and ratified at the succeeding meeting of the other Division, and to supervise and direct their distribution as it may see fit. The Editor of *THE CONDOR* shall act also as Editor, with such associates as he may appoint, of any other publications of the Club.

#### ARTICLE XI.

##### *Amendments*

Sec. 1. This Constitution may be amended at the pleasure of the Club; such amendments shall be in writing, and must be proposed at a regular meeting of one Division, action to be taken at the next regular meeting. Amendments must be passed by a majority vote of the members present, and ratified similarly by the other Division.

#### MINUTES OF COOPER CLUB MEETINGS

##### SOUTHERN DIVISION

**SEPTEMBER.**—The September meeting of the Southern Division was held on Thursday evening, September 28, in the office of H. J. Lelande, 246 Wilcox Bldg., Los Angeles, with President Morcom in the chair and the following members present: Howard Robertson, F. S. Daggett, H. J. Lelande, Loye Holmes Miller, O. W. How-

ard, George Willett, A. B. Howell, Antonin Jay, Otto Zahn and J. E. Law.

The minutes of the August meeting were read and approved. On motion of Mr. Lelande, seconded by Mr. Zahn and duly carried, the Secretary was instructed to cast the unanimous ballot of those present electing to active membership Messrs. E. J. Darlington and Bernard Bailey, proposed at the last meeting. Applications were presented from Mr. J. S. Douglas, Bakersfield, Calif., proposed by W. Lee Chambers, and Mr. L. W. Welch, Long Beach, Calif., proposed by Loye Holmes Miller.

The Club then took up the discussion of the new constitution which had been returned by the Northern Division with slight amendments to three of the articles. These were discussed at length and detailed modifications adopted. Finally, on motion of Mr. Lelande, seconded by Mr. Miller and unanimously carried, the new constitution as then amended was adopted in its entirety.

The Secretary then read the minutes of the Northern Division for September, after which the meeting was adjourned.—J. E. LAW, Secretary.

**OCTOBER.**—The October meeting of the Southern Division was held on Thursday evening, October 26, in the office of H. J. Lelande, 246 Wilcox Bldg., Los Angeles, with President Morcom in the chair and the following members present: W. Lee Chambers, F. S. Daggett, Evan Davis, Henry Grey, J. Grinnell, A. B. Howell, Antonin Jay, H. J. Lelande, J. E. Law, C. C. Lamb, Loye Holmes Miller, Guy C. Rich, Howard Robertson, H. C. Tracy, George Willett, and Otto Zahn.

The minutes of the September meeting were read and approved. On motion by Mr. Willett, seconded by Mr. Lelande and duly carried, the Secretary was instructed to cast the unanimous ballot of those present electing to active membership Mr. J. S. Douglas proposed at last meeting. Applications were presented as follows:

Dr. F. H. Ottmer, Eureka, Calif., proposed by C. Irvin Clay; Robert Thomas Moore, 46 Mansion Ave., Haddonfield, N. J., R. L. More, Vernon, Texas, both proposed by W. Lee Chambers; George W. Schussler, 1345 Oak Street, San Francisco, John B. Litsley, Jr., 1722 Alston Ave., Fort Worth, Texas, both proposed by H. W. Carriger.

On motion made by Mr. Robertson, seconded by Mr. Zahn and duly carried, the business managers were authorized to use their judgment in the matter of printing copies of the new Constitution. The minutes of the Northern Division for October were read by the Secretary. On motion of Mr. Robertson, seconded by Mr. Miller and unanimously carried, the resolution adopted by the Northern Division



inviting the A. O. U. to meet in San Francisco in 1915 in conjunction with the Cooper Ornithological Club was adopted.

Mr. Grinnell then gave a very interesting talk covering his summer's work and the faunal problems that he has been endeavoring to work out. Adjourned.—J. E. LAW, *Secretary*.

**NOVEMBER.**—The November meeting of the Southern Division was held on Friday evening, December 1, in the office of H. J. Lelande, 246 Wilcox Bldg., Los Angeles, with President Morcom in the chair and the following members present: W. Lee Chambers, F. S. Daggett, H. Grey, O. W. Howard, A. B. Howell, Antonin Jay, H. J. Lelande, C. C. Lamb, Dr. T. S. Palmer, Miss Elizabeth Palmer, L. G. Peyton, Guy C. Rich, Howard Robertson, L. W. Welch, George Willett, J. E. Law.

The minutes of the October meeting were read and approved. On motion by Mr. Willett, seconded by Mr. Lamb, and duly carried, the Secretary was instructed to cast the unanimous ballot of those present electing to active membership, Messrs. F. H. Ottmer, R. T. Moore, R. L. More, Geo. W. Schussler, John B. Litsley, Jr., and L. W. Welch, nominated at previous meeting.

Applications were presented as follows: Sherwood Coffin, San Francisco, proposed by Joseph Mailliard; Chas. L. Whitcher, and Mrs. L. L. Fox, Los Olivos, Calif., proposed by Vernon Bailey; Sarah R. Atsatt, Los Angeles, and Elizabeth Heald, Berkeley, both proposed by H. C. Bryant; G. W. Stevens, Alva, Oklahoma, proposed by A. B. Howell; Wm. A. Strong, San Jose, Calif., proposed by A. B. Howell.

On motion made by Mr. Robertson, seconded by Mr. Peyton, and duly carried, the application of the Chemical Society and the Geographical Society of the Pacific, were approved for membership in the Pacific Association of Scientific Societies, and March 5, 6, 7, 1912, were approved as the dates and Stanford University as the place for the next annual meeting of the P. A. S. S., and the Business Manager was instructed to remit \$5.00 to said Association to cover the annual dues.

Mr. Robertson made a short verbal report on the progress of the Museum of Science, History and Art, on whose Board of Governors he is the member from the Cooper Ornithological Club. He reports that the Museum is rapidly nearing completion and that Mr. F. S. Daggett has been appointed by the Board of Governors as Director of the Museum. Mr. Daggett has already assumed control and the Cooper Club is congratulating itself that one of its members has been available for this position. The Museum has been taken out of politics and its maintenance for a period of fifty years has been provided for. The Board of Governors are to

consist of representatives of the leading scientific societies of this locality. Mr. Daggett has already secured valuable material in the fossils taken from the Rancho la Brea beds, and this feature alone will be enough to make the Museum a great one. Few people realize the amount of material of this kind already on hand.

A paper entitled "A Visit to Nootka Sound," by H. S. Swarth was read by the Secretary. An insight was given into the history of this locality as well as the physical conditions of the region. The paper included a list of all the birds noted there.

The Club then listened to a very interesting talk by Dr. T. S. Palmer on the bird reservations of the United States, of which he has charge. There are fifty-one of these at the present time, and scattered as they are throughout the country some very interesting features are presented. It is expected that aside from the protection of the birds themselves, some very noteworthy problems will be worked out through the facilities thus placed at the naturalist's disposal. The Club gave a unanimous vote of thanks to Dr. Palmer for his instructive talk, after which it adjourned.—J. E. LAW, *Secretary*.

#### NORTHERN DIVISION

**OCTOBER.**—The October meeting of the Northern Division was held at the Museum of Vertebrate Zoology, Berkeley, Saturday evening, October 21. Vice-president H. W. Carriger was in the chair, and the following members present: E. W. Gifford, H. L. Coggins, M. S. Ray, O. J. Heinenann, H. C. Bryant, J. Grinnell, W. P. Taylor, and H. S. Swarth.

The minutes of the September meeting were read and approved. The following applications for membership were presented: George W. Schussler, San Francisco, Calif., and John B. Litsley, Fort Worth, Texas, both presented by H. W. Carriger. J. S. Douglas, Bakersfield, Cal., and E. J. Darlington, Wilmington, Delaware, whose names were read last month, were elected to membership in the Club.

The following resolution, offered by W. P. Taylor, was unanimously passed, and ordered sent to the Southern Division for approval, and to be forwarded to the Secretary of the American Ornithologists' Union:

"Whereas no meeting of the American Ornithologists' Union has been held in the west since 1903, and

"Whereas the progress of the science of Ornithology will be best subserved through a closer co-operation of those interested in it throughout the nation, and

"Whereas the members of the Cooper Ornithological Club sincerely desire to enlarge their acquaintanceship among members of the

A. O. U. and to come into closer personal sympathy with them, be it

"Resolved, that the Cooper Ornithological Club hereby extends a cordial invitation to the American Ornithologists' Union to hold its annual meeting for 1915 in San Francisco jointly with the Cooper Ornithological Club."

There being no further business the program of the evening was then taken up. Mr. H. C. Bryant spoke on "The Relation of Birds to an Insect Outbreak in Northern California", the history of a plague of butterflies in Shasta County, and the species of birds found feeding on them. Adjourned.—H. S. SWARTH, *Secretary*.

NOVEMBER.—The November meeting of the Northern Division was held on the 18th at the Museum of Vertebrate Zoology, with President Mailliard in the chair and the following members present: Messrs. Heinemann, Grinnell, Carriger, Gifford, Ray, Anderson, Fisher, Camp, Coggins, and Swarth. The minutes of the October meeting were read, followed by the Southern Division minutes for September. George W. Schussler, and John B. Litsley, Jr., whose names were presented last month by H. W. Carriger, were elected to membership. The following new names were proposed: Charles L. Whitcher and Mrs. L. L. Fox, of Los Olivos, California, both presented by Vernon Bailey; Miss Sarah R. Atsatt, Los Angeles, and Miss Elizabeth Heald, Berkeley, presented by H. C. Bryant; F. H. Ottmer, Eureka, presented by C. I. Clay; and R. L. More, Vernon, Texas, and R. T. Moore, Haddonfield, New Jersey, presented by W. Lee Chambers.

A suggestion of Mr. A. B. Howell's was brought to the attention of the meeting—that a member be appointed in each town represented at the meeting, to secure the subscription to THE CONDOR, of their respective public libraries. In accordance with this suggestion the chair made the following appointments: In Berkeley, W. P. Taylor, in Alameda, E. W. Gifford, in Oakland, R. S. Wheeler, in Palo Alto, W. K. Fisher, in San Francisco, H. L. Coggins, and in Sierra Madre, Charles Camp.

The matter of holding an annual club dinner, as heretofore, was decided in the affirmative, and the chair appointed Mr. John W. Mailliard a committee of one to attend to the necessary details. A communication from the secretary of the Pacific Association of Scientific Societies was then placed before the meeting, containing the following matters to be acted upon: (1) the five dollars yearly dues of the Cooper Club is now payable; (2) the Chemical Society has applied for admission to the Pacific Association. Shall this organization be voted into membership? (3) Shall March 5, 6, 7, be the dates, and Stanford University the place, of the next

annual meeting of the Association? The first, as a recognized obligation of the Club, required no formal action, further than that the secretary notify the treasurer of the fact. The two other questions were answered in the affirmative.

The nomination of officers for 1912 was next taken up, and the following selections were made: President, H. L. Coggins; Vice-president, H. W. Carriger; Secretary, H. S. Swarth.

Mr. J. Mailliard, as chairman of the constitution committee, reported that the new constitution had been received by him from the Southern Division, that that Division had adopted the constitution with certain slight changes, that the committee could see no objection to the changes that had been made, and that the committee recommended the adoption of the constitution as it now stood. This was accordingly done.

Mr. Grinnell entertained the meeting with a talk on certain questions relative to the geographical distribution of animals, demonstrating his points with certain recently ascertained facts relative to the respective ranges of two of the southern California song sparrows, *Melospiza m. cooperi* and *M. m. saltonis*. Adjourned.—H. S. SWARTH, *Secretary*.

DECEMBER.—The December meeting of the Northern Division was held at the Museum of Vertebrate Zoology, Saturday evening, December 16. Vice-president Carriger was in the chair and the following members present: Messrs. Camp, Coggins, Grinnell, Gifford, Taylor and Swarth. The minutes of the November meeting were read. The following, whose names were presented at the previous meeting, were elected to membership: Mrs. L. L. Fox, Miss Sarah R. Atsatt, Miss Elizabeth Heald, C. L. Whitcher, F. H. Ottmer, R. L. More, and R. T. Moore. New names were presented as follows: Sherwood Coffin, proposed by Joseph Mailliard and Ernest Mailliard; L. W. Welch, proposed by L. H. Miller, and G. W. Stevens and W. A. Strong, proposed by A. B. Howell. A communication from the secretary of the Pacific Association of Scientific Societies was read, stating that the Geographical Society of the Pacific had applied for membership in the Association. The division voted "yes" on the application. The election of officers for the Northern Division for 1912 then took place, with the following results: President, H. L. Coggins; Vice-president, H. W. Carriger; Secretary, H. S. Swarth.

W. P. Taylor spoke on "The Laws of Temperature Control, with special reference to the birds of the Mt. Whitney Region", his remarks calling forth considerable discussion from his auditors. Adjourned.—H. S. SWARTH, *Secretary*.

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**WANTED**—Correspondence with all persons who have done any kind of ornithological work in Wyoming. Send me names and addresses of yourselves and friends. ERNEST PILLSBURY WALKER, *Dept. of Biology, Univ. of Wyom., Laramie, Wyo.*

**WANTED**—Wilson Bulletin 2, 4; The Oologist, Utica, N. Y., vol. I complete; II, 1, 2; III, 8, 9; IV, complete; V, complete; Bulletin of the Cooper Ornith. Club, vol. I, odd nos. W. LEE CHAMBERS, *Eagle Rock, Los Angeles Co., Cal.*

**WANTED**—Audubon Ornith. Biography, vols. 2, 4, 5; Nuttall, Manual, 1840, 2 vols.; Bull. Cooper Club, I, no. 1; Bird Lore, vol. II, no. 2; and others. Also bird skins. B. H. SWALES, *Grosse Ile, Mich.*

**WANTED**—Ornithologist & Oologist, vol. 13, no. 2, Feb. 1888; Osprey 3, no. 7. O. WIDMANN, 515 Von Versen St., St. Louis, Mo.

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